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Oct 15th 1827

A

TREATISE

ON

INDIGESTION,

ETC. ETC.

LONDON:
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A TREATISE

ON

THOSE DISEASES

WHICH ARE EITHER DIRECTLY OR INDIRECTLY

CONNECTED WITH

INDIGESTION:

COMPRISING

A Commentary

ON THE

PRINCIPAL AILMENTS OF CHILDREN.

By DAVID UWINS, M.D.

CORRESPONDING MEMBER OF THE MEDICAL SOCIETY OF BERLIN, AND LATE PRESIDENT OF THE MEDICAL SOCIETY OF LONDON.

"So general a complaint is Indigestion in this Country, and so much does it influence other diseases, that there could not, perhaps, be a more useful Treatise than one on the manner in which the nature and treatment of other diseases are influenced by their concurrence with it."—"More than half the cases we meet with are *combinations* of diseases, rather than simple diseases."—WILSON PHILIP.

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ROYAL MEDICAL SOCIETY OF LONDON

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PREFACE.

The history of the present publication is soon told. A friend, who conducts one of the Journals, requested me to draw him up a paper on the popular subject of digestion; and while occupied in complying with this request, it occurred to me that a treatise, somewhat more excursive in its plan than any of those with which my duties as a reviewer brought me into contact, might, if properly executed, be well received. I found, indeed, an intimation to this effect in one of the tracts that came under critical examination — an intimation which I have transcribed on my own title-page, and which may be received as an apology for the undertaking now submitted to the judgment of the public.

With respect to the execution of the work, apology were useless. Readers will think for themselves, in spite of what authors

advance in the way of extenuation; and all attempts to soften the severity of criticism are, as they ought to be, vain and nugatory.

My principal apprehension in regard to manner is this, that while aiming at strength I have been betrayed into harshness; and that I have not appeared always sufficiently careful to take as a guide, both for sentiment and expression, that liberality which ought to characterise every thing connected with a liberal profession. If such be the feeling of my reader, I earnestly request that he will refer to the imperfection of mode what he thus finds objectionable in point of matter. I am too deeply convinced of the impropriety of dogmatism to be myself dogmatic; and although I should never wish unduly to compromise, I never would desire imperiously to dictate.

Differences of opinion must, and ever will, exist among the cultivators of a science which is so very far removed from what the French call *exact;* but these differences ought always to be entertained and expressed under a liberal conviction, that variety in creed (in medicine at least) need not interfere with feelings of friendship,

nor even break in upon the mutuality of esteem.

I have been thought, in some previously published strictures, to allude with unjustifiable severity to a class of men who are among the most honourable, the best informed, and demonstrably the most useful, of which society can boast. If that be the case, it is with the utmost readiness that I cry out *peccavi;* for, although I should hope to be one of the last in caring about abuse, or in truckling to popular feeling, I would be the first and foremost (if I know any thing of the constitution of my own mind) in listening to respectful remonstrance, and bowing to kindly rebuke.

A retraction of expression does not, however, imply a recantation of principle; it still does appear to me, that individuals who devote their time and talents to the higher departments of surgical science, are not those into whose hands the practice of what is called medicine, in contrast with surgery, would be best committed. It has been urged, that there is a manifest inconsistency in acknowledging the surgeon-apothecary to be a legitimate practitioner, and not extend-

ing the same admission to the surgeon himself. But the cases are not parallel. The education and habits of what is called, in the present day, a general practitioner, are precisely such as to consitute him the best practitioner in general; and although it appears to me that the dignity and rank of the profession would be most securely maintained by withholding its highest honours from those who, whatever may be their talents and acquirements, have not been liberally educated; and although I would contend for the separate rights and privileges of the separate departments of practice,—I would freely and fully admit the rectitude of an opinion, expressed nearly half a century since by a learned physician, that "the best schools for medicine, after all, are an apothecary's shop and a London hospital."

But in both departments, it would surely appear consistent with the occasional difficulties, uncertainties, and perplexities of practice, that referee practitioners should exist; and in respect to surgery, I must feel, that excellence in its pathological and operative department requires such an exclusive

occupation of mind upon certain particulars as is inconsistent with pharmaceutical details, ready habits of discernment in disease, or more reflective and generalising powers, brought to bear upon the same subjects. The *omniasm*, however, of the present day, must, even if ill founded, be attended with this good, that it will give freer scope for the scramble of talent, and will incite the student of medicine to be attentive, during his studies, to all its branches, and thus properly prepare himself for any one or more that the development of his feelings, or the destiny of his fortune, may, in after life, appropriate to him. Even the oculist, the dentist, and the aurist, ought to be well informed both in physic and surgery; for, although excellence in their art implies mechanical tact, while to the physician belongs observation, and reflection, and general science, nothing that has to do with the living body can, with propriety and effect, be undertaken and pursued upon the principles merely of mechanism, or in the spirit of a mere artisan. *Sed hæc hactenus* — a preface to a small tract must not be magnified into a dissertation on medical art, nor

converted into a disquisition on distinction and degrees in medical science.

I will just further say, that my little book has no loftiness of pretension. The habits of the times seem to sanction three distinct species of medical writing. One erudite and technical, and exclusively calling upon professional readers; a second the contrast to this, avowing its design of making "every man his own physician;" and a third being only so far professional as to be readable by the professions, and only so far popular as to be interesting to the man of general intelligence. It is in the third class that I design to rank the present attempt; and whether its plan and execution be worthy of its rank, I must, of course, submit to the decision of others.

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A

TREATISE,

ETC. ETC.

PART THE FIRST.

CHAPTER I.

Introductory. — Medical Theories.

It has often occurred to me, that the most tenable ground upon which the sceptical objector against the claims of medicine might make his stand, is that of the continued differences of opinion among systematic theorists. If some assert that disorder is general, while others contend for its local and partial origin or essence; if one individual refers you to the stomach, and another to the brain, and another to the fine membrane which lines internal surfaces, as the parts upon which disordered impulse directs primarily and principally its operations,—what security am I to

have, might the *lay* oppugner of our science say, that *any* of these principles or propositions are correct or substantiable? And with respect to the practical inferences which are drawn from them, how awfully distant from the right point may that physician be who is forming his remedial indications from an erroneously conceived locality, who is supposing the malady partial, when it is, in fact, universal; or who is looking into the liver, when he ought to be considering the brain!

A great deal, I think, of this objection to the correctness and value of the medical art might be done away with, did its systematic professors recognise the variable nature and incidental susceptibilities of disordered essence and cause; and did they take into account, that physical and moral man is so constituted as to modify disordered manifestation to an extent very far beyond definable limits; as, indeed, to change circumstance into cause, cause into effect, incident into essence, and essence into incident, almost *ad infinitum*.

If I am asked whether I subscribe to the doctrine of Clutterbuck or Broussais, I reply, to both, and to neither. Does any one appeal to me on the disputed point, whether asthma and hooping-cough are affections of the stomach or the lungs, I say that they are both, and they are neither. Even the much-disputed point of contagion, is only, as it seems to me, susceptible of

any thing like satisfactory solution, by assuming that fever is at once communicable and not communicable, contagious and not contagious: and all these discrepancies in disease, let it be duly observed, are referrible not so much to difference (except in degree) of excitant, as to the constitutional and circumstantial variety of condition with which the excitant is engaged.

In looking, then, for the abstract essence of disease, we look for what is not in nature. We commence from a *petitio principii*, and fill volumes with unmeaning controversies and absolute nothings. Were this, indeed, the extent of the mischief, the error in principle might be permitted to pass without deprecation or censure; but the progress of science is obstructed, the usefulness of the healing art abridged, and medicine brought into unnecessary obloquy, by such disputations as those to which allusion is now made.

Medical science is, indeed, of such a nature that a great deal of what is good in practice will occasionally connect itself with what is futile or even false in theory: it so happens, moreover, that the process of reduction or excitation is not seldom the same, whichever part of the system you may suppose demands especially to be reduced or excited: but it must not be concealed, on the other hand, that a partiality to a particular code of medical precepts, obstructs, in too many instances, the exercise of what we may term em-

pirical good sense; and gives a bias to practice, injurious to the interests of the practitioner, and detrimental to the well-being of the patient. I can well recollect the time that, when fresh from a school in which excitement was taught, I obeyed the commands of its dicta too much, in defiance of what my better or untrammelled judgment would have told me to be the truth of the case; and it is but a very little time since, that I was struck with the statement of a sensible physician whom I met in the street, which was to the following effect:—"I have just seen two patients who were sinking into the arms of death under the timid practice of 'mucous membrane' assumption; I have administered to them medicine and diet of a supporting cordial nature, have left the 'mucous membranes' to shift for themselves, and have the satisfaction to find that the individuals are rapidly recovering from a needlessly protracted ailment."

If I add to this instructive anecdote another, which places in a still stronger point of view the mischievous influence which certain principles have upon the minds of men of sense and science, I shall go far to excite the scepticism of some of my readers as to its truth; but I am induced to present the statement as it was made to me, from the conviction I feel, that one of the greatest benefits to be conferred upon a medical student is that of warning him against the passive adop-

tion of any particular creed which the ability, although wrong-headedness, of his instructor shall have impressed on his plastic mind. My story is as follows:—A convalescent from fever unexpectedly relapsed; the reason of this was puzzling to his physician, until he accidentally cast his eye upon a jar which contained the remains of some currant jam, part of which the patient had been swallowing. Now, says our theorist, all is clear, *eureka*, the seeds of the fruit have irritated the mucous membrane of the stomach and bowels, and the disorder has returned upon us in consequence of this irritation!"

Equally *outré* as this are many of the "*stomach*" tales with which every company you fall into is constantly entertained *usque ad nauseam;* some of them of course highly coloured, but others correctly narrated; and let it be observed that the individuals who propound and propagate these extravagances do not appear to do it in the spirit of charlatanism, or in the way of trying how far the gullibility of the public will go. No, they are men of intellectual excellence and moral worth; and we have every right to suppose their principles are the results of their convictions, and that they imagine themselves teaching important truths and legitimate doctrines. Nay, the principles and doctrines are true, and are important to a certain extent; and it is only in these, their

ad-absurdum extremes, that the most sober and judicious can object to them.

The naming or classifying error is the one to which I would next allude, as calculated to perpetuate unjust notions, and to vitiate medical theory. Nosology is nonsense, if the word be meant to convey the feeling that you can bring the multifarious items of disordered action and being into the compass of a system, in the same way that you proceed when the objects of your endeavours are the objects which come under the cognizance of what is called natural history. We might almost as well expect to see two human countenances precisely similar, as to witness a complaint capable of being traced and characterized through all its shades, and bearings, and varieties, by an abstract term. Scarcely can the indefinite, much less the definite article, be applied to disease. Is my malady *the* fever, *the* asthma, *the* scrofula, *the* epilepsy? are questions conceived and put too much in ignorance and misunderstanding; and although this sort of language is still sanctioned by professional usage, it will, I imagine, become more and more obsolete, as just and clear views in pathology break more and more upon our view.*

* The exception to, or qualification of, this principle will occur to every one in the instance of what are called specific disorders, or those affections which invariably originate from

If, then, to name a disease be, in one sense, to commit an error, how can we, with any thing like propriety, imagine the power of abstract classification? And yet there are men among us, and some of our first men too, who gravely fill pages full of nosological disquisition as to what class, and order, and genus, and species, a disease naturally and properly belongs.

Another error in medical philosophy arises out of a false appreciation of what is termed morbid anatomy — and this is especially the error of modern times. Let not my reader take fire. Let not the ardent student in anatomy for a moment suppose that I would intimate the possibility of learning medicine as we ought to learn it, or practising it as it behoves every honest man to practise it, without a thorough knowledge of structure, and an intimate acquaintance with those changes in structure which diseased action in-

a peculiar source—as the small-pox, the measles, the hooping-cough, &c. But even these exceptions I take to be more limited than is generally supposed. In a paper which my late esteemed friend, Mr. Gifford, did me the honour of publishing some time since in the Quarterly Review, I ventured to suggest, that there is probably too much division employed even in affections manifestly acknowledging a specific origin. I there stated that, in my judgment, Dr. Thomson was quite right in contending for the essential identity of small-pox, cow-pox, and chicken-pox—the varieties being referrible to time, place, and circumstance; and I also stated my opinion, that even small-pox and measles were originally one and the same disorder.

duces. But there are morbid anatomy as well as nosological trammels.

"Neve quis aut muros, aut *versam vomere terram* transeat."

Many, many changes, however, take place in the condition of our frames, both topically and generally, of which mere structural reasoning can have no cognizance: then, again, when you do detect altered form, after protracted disorder, you cannot always say how far this change has been cause, or consequence, or incident; so that inferring from what you see after death not seldom leads to fallacious conceptions of the circumstances and requisites during life. Your mere morbid anatomist seems constantly to feel and to act under the impression that nothing can take place but what implies formative and vascular, and visible and tangible change: if it is not with him "the mucous membrane," it is some other portion of the body's structure, which is subjected to the influence of active irritation; and all medicinal indication that is not based upon an anti-inflammatory foundation is to his conception erroneous or inapplicable.

Thus it may be seen how likely error is to assail us on all sides, unless we duly recognise the peculiar nature and limits of our art and science. The metaphysical, abstract, nosological physician prescribes by rule, in defiance of recognition, and practises upon principles that have

an imaginary base; the organic theorist limits his observations to a part, when he should be taking a survey of the whole; the hasty generaliser is mischievously regardless of parts and peculiarities; and the morbid anatomist can never be brought to appreciate any thing but structural and inflammatory ailment.

While the individual who shall have been made duly sensible of the conjectural and complicated nature of the healing art; who shall be cautious against a too hasty deduction from isolated facts; who shall understand that membranes and organs are often affected by their connexion, so to say, with the whole physical and moral construction; who shall, at the same time, receive and appreciate the fact, that topical derangements may be of sufficient power, under certain general susceptibilities, to derange the whole harmony of the system;—this man will prove the purest and ablest physician, coming, as we must suppose him to come, to the bed-side of his patient well imbued with all the collateral knowledge which the word medicine in its extent of signification implies; having well studied and learned anatomy, in connexion with physiology and pathology — having taken every opportunity of observing the mode in which disordered action implicates or alters structure — having paid due attention to the qualities and actions of medicinal substances, both in their simple agency and com-

bined effects — and having, above all, been studiously observant of the physiognomy of disease, and studiously attentive to learn in the school of clinical experience what neither the *ex cathedrâ* instruction of the professor can convey, the dissecting-room supply, nor a whole museum of morbid preparations teach. "Ne nimis illinc luxurietur animus, ne nimis hinc arescat; tota ferè cùm sit in eo medicinæ vis, quo, tanquam machinatione aliquâ, moventur artis instrumenta."*

If there be any propriety in the preceding remarks, they will not, it is hoped, be deemed an inapplicable preliminary to a treatise which goes upon the principle of breaking through the boundaries of nosological niceties — treating of disease not so much in the abstract, or by name, as by nature — and recognising the latter clause especially of the motto found on its title-page, viz. "that more than half the cases we meet with in practice (might not our author have enlarged the number?) are *combinations* of diseases, rather than simple diseases."

* From Dr. Warren's Harveyan Oration, 1826.

CHAPTER II.

Anatomical and Physiological Sketch of Parts and Organs more immediately connected with the Stomach.

It is to the distribution of the blood-vessels and nerves, especially the latter, that we are now principally to call the attention of the reader; but, in order to make this subject more intelligible and interesting, it will be right to present a preliminary sketch of those parts generally that are concerned in the process of digestion and assimilation.

This organization commences with the mouth and pharynx; the two principal openings from the latter are that into the larynx, windpipe, and lungs, going downwards and forwards, and that into the stomach through the glottis, or œsophagus. The pharynx itself is a membranous pouch, which is curiously elevated as it were by the act of mastication, and enlarged in the same way, says a modern author, as the mouth of a corn-sack is held for the reception of grain—and the comparison is not inapt.

Now, when the food is received into this pouch, to be transmitted to the stomach, it necessarily, in its passage, goes over the opening into the

trachea or windpipe; and accordingly we find that the expansion or elevation of the pharynx forces down what is called the epiglottis, so that in the act of swallowing, the passage leading into the windpipe is closed. After the morsel has passed over, and the gulp is completed, this little body is raised again, partly by its own elasticity, into its natural position, so as to admit air freely into the windpipe.

The œsophagus or gullet, as it passes down to terminate in the stomach, is situated behind the windpipe and before the bones of the neck; and it must always be recollected that these several parts, beside their contiguity, have a connexion with each other through the media of blood-vessels and nerves,—so that an affection of one part frequently induces an affection of the others. It is indeed for the sake of pointing out these intimate associations of organs, that we engage in this slight delineation of their anatomy.

While, then, the windpipe runs down upon the anterior part of the neck, to be expanded ultimately into the air-cells of the lungs, the gullet descends to terminate in the stomach, which is a membranous pouch, lying across the upper and principally the left side of the abdomen, immediately under the musculo-membranous partition by which the cavities of the chest and abdomen are separated; and from this position we may see how a distended state of the stomach—a disten-

sion beyond its due limits—comes to press upwards upon the lungs, to lessen the cavity of the chest, and in this way to interfere with free and full respiration.

The openings into and from the stomach are curiously constructed; the latter is especially so formed, and so endued with sensibility, as to permit an easy transit into the intestine of duly prepared aliment; while aliment not yet having undergone the necessary change, if brought to the orifice, is forced back into the stomach, "again to perform its proper round."

Of digestion itself, in the present place, we shall say nothing further than that the food is made to come successively under the influence of the gastric secretion, — a fluid poured out from the internal surface of the organ; or, as it is expressed by Dr. Wilson Philip, "the layer of food next the surface of the stomach is first digested, and in proportion as this undergoes the proper change, and is moved on by the muscular action of the stomach, that next in turn succeeds, to undergo the same change."*

* There is something exceedingly interesting in the mode by which this successive application of portions of food to the surface of the stomach is effected. It is, indeed, brought about by virtue of that peculiar action which is called peristaltic, and which extends down the whole line of the intestines. When I first read Dr. Philip's remarks on this particular, in his work on indigestion, I conceived them to be as novel as they are interest-

From the pyloric, or exit opening of the stomach, commences the intestinal tube; but there is a peculiarity in the construction, position, and office of the first of the intestines, named the duodenum, which it is necessary to point out: it is so constructed, in the first place, as to be more fixed in its situation than are the other portions of the intestinal canal; and it is so circumstanced, that the aliment, already much changed by the action and secretion of the stomach, is here destined to undergo a still further alteration—an alteration partly effected by the internal coat of the gut itself, but more particularly and essentially by the fluid received from the liver and the pancreas; the ducts transmitted from these organs terminating in the duodenum, and thus conveying their respective secretions.

It would appear that, for the due formation of chyle, both the bile and the pancreatic secretion

ing, and I still believe Dr. P. to have been quite unconscious of having been anticipated; but in looking over some old works on the subject of digestion, a friend of mine found a statement in a thesis bearing the date of 1715, which is almost verbatim the same with that of Dr. P.

I have elsewhere mentioned this curious coincidence, not for the purpose of at all detracting from the merit of Dr. Philip, or with an intention, for a moment, of accusing him of plagiary, but rather under the feeling that a great deal of present day announcement is neither quite so important nor quite so original as some of the promulgators of new theories suppose.

are necessary; and it is curious to remark how their supply is regulated by the circumstances which create the demand for them. "I attended," says Dr. Monro, "a case in which there was an abscess of the liver and a preternatural communication between that organ and the lungs, through which the bile was secreted, and discharged by coughing. The quantity thus discharged was very different at different times. It *was always greater after meals, and especially for an hour or two after dinner.*"

The pancreatic secretion also, as just intimated, may be supposed to be materially regulated both by the times of eating, and more especially by the mode in which we eat; since there seems to be an especial sympathy between its function and those glands of the mouth which are called the salivary glands, an increase of the one bringing a proportionate increase of the other; so that the evil of fast eating does not end in the transmission to the stomach of aliment insufficiently broken down by the teeth, but the morsel is also insufficiently prepared for its further change in the stomach; and the pancreatic juice is not sent in such large quantities as the chyle-making process demands.

The chyle is still mixed with other portions of the aliment, and it is in the passage of the mass through the several windings of the small intestines that the separation is effected of its nutri-

tious from its effete portion. Here, on the surface of the small intestines, are found those vessels which are called lacteal, and which convey the chyle into the blood-vessels. These vessels, in their course, pass through a large number of glands, named, from their situation, mesenteric glands, which are, as we shall presently see, the seat and source of much and extensive disease, especially during infancy.

With the convolutions of the small intestines the digestive or assimilating apparatus pretty nearly terminates; but the large intestine, named the colon, so encircles the small ones, and in making its great arch becomes so connected by contiguity with the stomach, the liver, the pancreas, &c., that disordered conditions of it frequently simulate stomach and other visceral complaints, and often very much modify them. The possible state of the colon ought always to constitute part of our investigation when we are endeavouring to ascertain the precise circumstances of abdominal disease.*

Such, then, is briefly the digestive organization. We have, first, the mouth, for the reception of the food, for its mastication, and to furnish

* Dr. Yeats has paid much attention to disordered states of the colon; and we shall most probably receive some interesting matter from him on this topic by the publication of lectures which he recently delivered before the College of Physicians.

the secretion from the salivary glands. We have next the stomach, for subjecting it to the agency of the gastric secretion. We have, thirdly, its passage into the duodenum, and the entrance here of the biliary and pancreatic ducts, for the fluids from the liver and pancreas to assist in the completion of chyle. We have then, in the passage of the mass through the small intestines, the chyliferous taken from its innutritious portion, and conveyed into the blood; while the remaining fæcal part is carried off, first going the round of the colon's great arch.

Let us now point out the connexion which obtains between the blood-vessels and nerves of this organic structure.

The root from which all the blood-vessels emanate is called the aorta, a large trunk which arises from the left or back part of the heart, and immediately as it emerges from that organ, sends off small branches, which, ramifying on the heart itself, constitute its proper arteries, the coronary. The aorta, passing upwards, ascends as far as the top of the chest, and is then curved downwards; at the part where the curve is made, three large branches are sent off, which supply the head, the neck, and the upper extremities—the brain receiving by much the largest proportion. In descending, the aorta takes its course on the fore and left part of the spine, in conjunction with the windpipe and the gullet, perforates the mem-

branous septum between the chest and abdomen,— the diaphragm, and almost immediately as it goes through that organ, it transmits a large artery, the cœliac, which soon subdivides into three smaller ones, for supplying, in great part, the stomach, the liver, the pancreas, and the spleen.

The spleen lies just under the left extremity of the stomach, to which, as well as to the pancreas, it has thus a vascular attachment: unlike the liver or the pancreas, the spleen is without a secretory duct, and therefore does not seem subservient to the assimilating function in the way that the liver and the pancreas are; that is, there is not a peculiar secretion sent from it, in order to assist in the elaboration of the chyle.

The spleen, however, has this peculiarity, that it receives a large supply of blood in proportion to its size, and that its blood-vessels are, so to say, intertwined with those especially of the stomach and the pancreas.

Now, if we advert in idea to this intimate union of parts and organs,— so far merely as the blood-vessels are concerned, it must readily strike us, that morbid conditions or irregular impulses of one portion of them can scarcely fail of inducing an irregular, inharmonious movement through the whole series. It has, indeed, been conjectured, and with a great deal of plausibility, that the spleen's principal office, in the animal economy, is that of a reservoir for the blood; for

it happens that when the stomach is distended with food, a more than ordinary supply of blood is required to satisfy its demands. Now the distention supposed, by pressing upon the artery which is passing into the spleen, is imagined to impede the current of blood through the artery, and, by consequence, to occasion the transmission of a greater quantity through the pancreatic and stomachic branches of the cœliac; so that, as we have just seen, more bile is secreted as more is called for by the digestive wants; or, in other words, as more chyme is awaiting its influence, in like manner is more blood brought to the stomach by the very circumstances which occasion the larger need.

It seems, indeed, fair to presume, that even the secretion of bile may be regulated by the arrangement of blood-vessels, and the consequent impediments now referred to; since more blood may be sent to the liver through the hepatic artery — one branch of the great artery of which we are speaking — in consequence of the interrupted circulation through the splenic branch, and thus may a greater activity be given to the liver. We are aware, indeed, and the fact may here be stated, that the great vessel which goes into the liver under the name of the portal vein, is principally destined for the secretion of the bile; but, beside that there is no positive proof of bile not being secreted from the hepatic

artery, it seems fair to suppose, that a more than ordinary impulse given to this, the artery of the liver, properly so called, will be attended with a proportionate vigour in the organ, and that thus the assumed increase of biliary secretion will take place.*

But we must hasten to inquire respecting the mode in which nervous or sentient supply is insured to these parts.

Of nerves there have been described three classes, one of which is more immediately connected with the brain, and expanded upon the organs of sense, such as the optic, for the purposes of vision,—the auditory, for the ear, &c.; the second for sensation generally, and for the voluntary motions; and the third directing what are called the organic or involuntary movements, as opposed to those which are under the entire command of the will — these last not immediately originating either from the brain itself or the spinal chord, but intimately connected with

* Since writing the above, I have seen, in the Medical Repository, some extracts from a foreign journal, advocating the opinion, that the spleen, as a *secretory* organ, assists in the assimilation of food, or the conversion of chyle into blood. Before this hypothesis, however, can be substantiated, much more must be detected than has hitherto been done; and even admitting the principle, the assumption does not interfere with the other probable purposes of the organ and its blood-vessels, to which allusion is made in the text.

both the other systems, and serving as their bond of union.

The eighth pair of cerebral or brain nerves consists of two portions, one called the wandering portion, the *pars vaga*, and another much smaller portion, called the glosso-pharyngeus, or lateral lingual, which last, as its name implies, is principally expended in furnishing branches to a portion of the pharynx, to the epiglottis, and to the tongue; and hence, in part, the connexion of those affections about the upper part of the throat and windpipe which are often characteristic, in children, of disordered brain, but about which there seems occasionally much obscurity in regard to their precise nature and origin. Then there is the accessory nerve, which accompanying in the first instance the eighth pair, goes on to the shoulder; while the *pars vaga* descends in the neck, close by the large artery which supplies the head and brain, sends branches to the pharynx and windpipe, a filament or two to the heart, and joining that nerve which is named the great sympathetic, becomes thus a nerve of the chest and abdomen. Indeed, nerves are sent from what is called the œsophageal plexus of the eighth pair, directly to the stomach and to the liver.

Of the sympathetic nerve itself it is difficult to give any satisfactory description, since it is properly a nerve of general communication, and has, strictly speaking, neither beginning nor end.

The fifth pair of nerves from the brain is called the par trigeminum, on account of its division into three great branches,—one supplying mainly the internal parts of the eye and nose; one being principally dispersed on the cheek and upper jaw, and being principally engaged in that painful affection named tic douloureux; and one furnishing nerves to the lower jaw, the tongue, &c. Now the sympathetic is described by some anatomists as being formed originally by a reflected branch from this second division of the fifth pair, and by a filament or two from the sixth pair; these, uniting with other nervous branches, form a plexus on the neck surrounding the artery of the head, and from which plexus the trunk of the sympathetic is considered as emerging,—branches, as it descends, connecting themselves with the wandering pair; and the great semilunar ganglion is at length formed, which, in some sort, may be said to be the great central nerve of the stomach and its connected viscera; it is composed of many smaller knots, which are situated over the aorta, about the roots of that blood-vessel which we have described as the artery of the stomach, and the spleen, and the liver, and the pancreas.

The numerous knots or ganglia which are found in this general nerve of communication, are said to be its great characteristic, and they are supposed to be parts where the nervous influence

is, so to say, concentrated and collected, and which establish its independence, in some sort, on the brain. Thus Wilson Philip (who has paid much attention to the nervous organization and function, and whose labours in this field of inquiry demand high commendation,) tells us, that the influence of volition seems to be transmitted *directly* from a portion of the brain to the moving organ, while the organic and vital organs, which are principally the heart, the lungs, and the abdominal viscera, are influenced by the impulse *going the whole round of the ganglionic system* before it reaches the part where it impinges,—and thus is seen at once the connexion which these viscera and parts maintain with the brain, and their want of *mandatory* dependence upon it. It will be observed, as a curious and important fact, that the ganglia and plexuses of nerves are in the greatest abundance upon the roots of the blood-vessels, and near the important organs; and hence is established the very important dependence which more or less of vigour in the nervous system must have upon the circulating organs. And further, should any accidental impulse be directed to this or that part of the central or uniting nerves,—the ganglionic system, as it has been termed,—the blood-vessels in the immediate vicinity of the part would be primarily and mainly acted upon; but this impulse, whether agreeable or disagreeable, natural or morbid,

would soon come to influence the whole or greater part of the circulating apparatus, and disordered action would be set up in parts, either in proportion to their proximity to the original localities, or in the ratio of susceptibility in this or that organ to deranged movement.

We have thus followed, in a very cursory way, the ordinary division of nerves, and have supposed the ganglionic to be a separate though a connecting and connected system of the nervous organization,—the *organic* system of Bichât, as opposed to the animal.

Mr. Charles Bell has, however, recently proposed a thorough change in the classification of nerves. He takes the entire system as it is extended from or connected with the brain, including the whole length of the spinal chord. He supposes, that besides the sensual nerves, as those for vision, smell, and hearing, there are four systems combined into a whole, viz. those for sensation and those for voluntary motion, arising nearly together, but in separate columns—those of respiration, and those which combine the others into a whole, and perform the vital functions. The two first, as we have said, arise in separate columns from the spinal chord; they comprise, beside, the spinal nerves, generally considered such, the fifth nerves from the brain of the common division, and the tenth, or suboccipital, of some anatomists. These, our author

says, are all of double origin, (that is, the parts for sensation and the parts for motion are distinct at their roots), they are the nerves of muscular motion, and the general sensibility of the body's surface.

Then come the respiratory nerves of Mr. Bell's arrangement, which are principally sent off from that part which anatomists name the medulla oblongata. They are the par vagum of the eighth pair, the portio dura of the seventh, the accessory of the eighth, the phrenic, or the diaphragmatic, which is said to be principally formed by a branch from the second, third, and fourth of the upper spinal nerves, and the external respiratory, having the same origin. All these Mr. B. calls superadded or respiratory nerves, and he maintains that they are distinct from those for sense and motion: they do not pass off like them *laterally*, and *with a double origin;* they are not furnished with ganglia at their roots; and they do not bestow the faculty of feeling on the parts to which they are distributed.

The nerves which unite the whole are the sympathetic of former anatomists.

Now, whether we adopt the old or the new arrangement,—and we cannot but concede to Mr. Bell that he has done away with a great deal of the intricacy and confusion formerly attached to the subject,—we shall find the same sympathetic connexion between the nerves of the

stomach, the heart, and the brain: there is the junction of the pharyngeal with the wandering pair—this extending on to join the sympathetic—this, the sympathetic, supplying the stomach and the liver, branches again connected with the phrenic, and these altogether establishing a union between portions of the brain, the respiratory, and the visceral organs, that gives rise to and accounts for that intimate and remarkable connexion of one part with another, the great centre of combination being near to and about the stomach.

Mr. Bell's merits appear to me to be principally that of establishing a distinct system of respiratory nerves, and of shewing the separate origin of the nerves of sense and motion—thus solving a problem which had hitherto puzzled anatomists. In this last particular he clearly anticipated M. Majendie, who has subsequently discovered the same thing, viz. that the nerves of sensation and of motion originate separately in the spinal chord. It ought, however, to be recollected, that with respect to the former division between brain and spine nerves, Dr. Gordon had already started objections, and that the French physiologists had shewn the connexion which the function of breathing has with that portion of the spinal chord principally, in which Mr. B. has demonstrated the origin of the respiratory system of nerves.

It is right, in this part of our inquiry, to state, that the central nerves are subjected to the two following laws, viz. that they act under healthy, or ordinary or regular impulse, without consciousness on the part of the individual; but when sensation is called forth in them, that sensation is often of the most painful kind, of large influence, and is frequently manifested and felt at a great distance from the point which the exciting cause immediately attacks. Some noxious matters, for instance, taken into the stomach, will produce, by operating upon the great centre of nervous power, a very considerable disturbance, and produce very painful sensations in organs distant from the stomach, frequently with an inexplicable irregularity. And again, irritations made upon the system, at a distance from the centre, shall only, or at any rate in the greatest measure, be felt at the stomach.

Let a person take an ordinary meal, and stop at the point of satisfying the demands of the frame, there shall be no local cognizance or consciousness, as it were, called out. What sensation *is* produced is of a pleasurable rather than a painful kind, and it is rather felt through the whole system than at the stomach itself. But let this line of neutrality be passed over, let the individual continue to eat after commencing sensation has been produced, and both partial and

general disturbance will result, in form and degree proportioned to constitutional perceptibility.

We scarcely, then, need add another word in illustration of the principle, that a healthy or disordered state of the stomach and its dependencies may come to create, and to modify, and to mix with other derangements to an extent and in a manner which must necessarily interfere with any strictness of nomenclature, and almost justify the popular terminology of nervous and bilious, as applied to a whole host of anomalous ailments.

When the philosopher complained that all the reasoning with which he had been warmly engaged and delightfully occupied during the forenoon, appeared nonsense and confusion to him after he had dined, he might not have been aware, that the alleged confusion of thought, and dulness of conception, and want of interest in abstract truth, implied an extensive change in the condition of the nerves, and consequently of the blood-vessels, which, carried to a greater length, would have been productive of a certain degree even of apoplexy itself; or that the total abolition of sentient power implied in the nosological term apoplexy, is but a larger measure of that mechanical, and nervous, and sympathetic, and vascular change, which the organization experiences during the digestive process.

When emotions of the mind produce an irre-

gularity in the pulsations of the heart, and in the heave of the lungs, and in the expressions of the countenance, so that gasping for breath, alternate paleness and flushing of face, with irregular beats of the heart, shall result immediately from hearing a tale of horror — what are these effects but the manifestations of combined influence through that part of the nervous system which Mr. Bell has beautifully generalised into the respiratory? And when to these effects of distressing intelligence or horrid relation is added a total and immediate suspension of a previously keen appetite, we see how the respiratory attaches itself to the stomachic or central system, and how rapidly impulse, as it were, runs through one, to fasten upon another part of the nervous organization.

When the medical theorist, in the spirit of system, contends that general disorder is the result of an inflamed state of the brain, or originates in an irritative action of the membrane which lines the stomach and bowels, or is the consequence of a disordered condition of the liver, he seems to lose sight of the fact that deranged excitation, be it febrile or be it what it may, commencing from any one point, soon brings other parts into consent; and that a general shock received through the whole range of sentient being, shall settle, in an attempt, so to say, at readjustment, upon one or other part of the vascular or nervous organization, as that part

shall at the time happen, either from constitutional and inherent, or extraneous and accidental circumstance, to be especially obnoxious to disordered impulse; and that thus a malady, nominally or in cause the same, may come, in point of fact and display, to be very different; and thus the utmost variety of morbid being depend upon varieties that have no original or necessary connexion with the exciting agent. It must, however, be taken into account, that varied susceptibility to disease has often a very considerable and conspicuous relationship to the condition of the stamina, as it is expressed, or natural conformation of the body; and before we proceed to the consideration of separate ailments, we are called upon to offer a remark or two on these constitutional and inherent differences, and on the general principle of healing or restorative agency.

CHAPTER III.

Constitutional Differences of Susceptibility, and general Principles of Medicinal Agency.

Besides the nerves and the blood-vessels, we have an important part of organic existence, which is known by the name of the lymphatic system. While the nerves are destined to convey sensation and to originate motion; while the circulating blood is the medium of support and nourishment, and growth and development, — the lymphatics, at least a portion of them, serve the purpose, as we have seen, of supplying the blood with its matter of sustenance. Blood-vessels, then, lymphatics, and nerves, may in one sense be said to constitute the whole of organic being; all the rest being as it were mere frame-work or dead matter.*

Now it would seem natural enough to suppose that an individual, from birth, might be endowed with more or less of vigour, not merely

* It will be obvious enough to the reader who knows any thing of modern physiology, that we may consider the lymphatic as a portion of the absorbent system, in reference to disordered sensibility, without touching upon the question recently agitated — whether the veins are also absorbents.

of constitution generally, but in one or other of these media, so to say, of vital causation; and such we find the fact.

One person, without being generally feeble, will prove, from his cradle to his grave, to be what is called nervous; that is, he may be firmly made and accoutred by nature, so far as the mere ground-work of the machinery goes; he may have a bone compact in its structure, and large in its dimension; he may possess a muscle that shall forcibly contract in obedience to the mandates of the will; he may be furnished with blood-vessels ready and able to act with freedom and facility under the order of the circulating impulse; an absorbent energy prepared to take up the nutritive, and an exercent power to throw off effete matter; — and yet shall be, in one sense, or in one particular, a weakly individual; that is, the organs which are destined by nature to receive and to transmit sentient impressions, shall be so constructed as to run rapidly into a disordered state, from the slightest source of irritation; to be morbidly acute at one time, unduly torpid at another, and never in that condition of tone or strength which is consistent with a firm and regular performance of function.

In another individual we shall find the circulation of the blood to be that function which shall most easily be pushed into a deranged condition by disease-creating impulse. His feeling

is by no means morbidly acute; his lymphatic organization and absorbent energy are so adjusted to the requisites of the frame, that he has no tendency to glandular ailment, no readiness to be affected through any portion of the secretory or excretory system; and yet expose him to sources of irritation, and you will find the result manifest itself in partial or general disorder of blood-vessels; hæmorrhages will easily occur; inflammation will be prompt to establish itself: the individual is of a sanguine temperament.

The lymphatics of a third individual are the parts upon which disorder most readily fixes. In this instance, the perceptive organization may be developed with a due regard to healthy proportion; the blood-vessels, when once supplied with their material of circulation, may circulate freely; the brain and the heart, — the centres and sources of the perceptive and vascular impetus, may be both in the best condition of susceptibility; and yet the supplying and discharging portion of the frame shall be so feeble in its structure, and so morbid in excitability, as to be constantly obnoxious to disease. In this case, that kind of constitution exists which is vulgarly called scrofulous; and which, notwithstanding all our recent refinements in phraseology, in spite of all our attempts to generalise and to simplify, cannot but be received as

consisting in " a particular condition of the lymphatic system."

In the above sketch, or indication of constitutional peculiarity, we must enter our protest against a desire of being understood as precise and determinate. The divisions, after all, are in one sense ideal; and we find in nature no prototype of absolutely unmixed constitution: the lymphatic falls in with the sanguine; the nervous with the lymphatic; the sanguine with the nervous, in such sort, that you can never predicate any thing beyond apparent predominance, and frequently hardly that. The ancient doctrine of temperaments was objectionable, because it did not sufficiently recognise these endless mixtures, and because it assumed the existence of a something tangible — a *materies*, upon which the difference in constitution is founded. We actually know nothing beyond the fact of varied susceptibility; we are still ignorant of the cause upon which the variety depends.

And so we are in respect to the *modus operandi*, as it is technically termed, of medicine; or the precise principle upon which restorative agency is effected. Metaphysics and physics, and reasoning founded on a rejection of either, have all in vain been tried, to explain the manner in which medicinals operate. Chemistry will not do; for, although we may take any fluid from the body,

whether natural or the result of disorder, and subject it to the strictest analysis which modern science is capable of effecting; and although we shall have found the something, which, taken from or added to, out of the body, will change a morbid fluid into a healthy one,—we cannot operate this subtraction, or addition, *in* the body. There is a something between us and our endeavours, which in all cases modifies, in most cases nullifies, the experiment; and this is the case with the solids as well as the fluids. The bones, for example, are mainly constituted of phosphate of lime, as ascertained by chemical analysis. Now we find in some instances, of children's disorders especially, that the essence of the ailment consists in a deficiency of bony formation. We want, in fact, more phosphate of lime in the bones; but we cannot, by throwing this material into the stomach, or injecting it by the rectum, or introducing it directly into the blood-vessels, or applying it to the open mouths of absorbents, supply the demand. No, the effect can only be remedied by bringing the living energy into that state in which it shall have power to manufacture, as it were, from the blood the wanted material; or, perhaps, we might say, by bringing the blood into a condition of supplying the material.

This being the case, an attempt was made some few years since to comprehend all medicinal operation under the principle of excitement; but

besides that there is a vagueness in the very term, —and if the proposition, that we have nothing to do but to excite or reduce were tenable, the implication would follow, that there is but one disease and one remedy,—facts are constantly presenting themselves before the eye of observation, which are totally at variance with the very principle. A youth has just this moment left my room, who is subject to occasional lowness and depression of spirits, and general hebetude of feeling and power: after these states shall have existed for some time, his skin assumes a redness — a something appears on the surface of the body, between a mere blush and an actual rash; and immediately upon this taking place, his nervous depression goes, and what you have before vainly attempted to do by exciting influence, is now done for you by the correcting hand of Nature. In instances like this, then, — and something like it is constantly occurring,—we are compelled to give up the doctrine of excitement, or stimulation, and adopt, in a sort of empirical or confused way, the conclusions of those men who talked about the humours of the body, or who conceived that in the blood and fluids was to be found the essence of disease, as well as the principle of life, and that curative agency is resolvable into a something of change brought about in them.

But that the humoral doctrines of medicine

are themselves also fallible, may be proved by a variety of examples. Who shall say what is added to, or abstracted from, any of the body's fluids, when in a moment mere mental impulse shall so change the whole man, that from a healthy or sane, he plunges at once into a diseased or insane state; his thoughts and his feelings, and his actions and his countenance, being at complete variance with his former self; and withal, having some of the secretions of his body, which before were without any offensive odour, now offensive in the extreme? It is known, that hearing unexpectedly distressing intelligence, will immediately communicate an offensiveness to the breath; and this is an instance of physical disorder from an absolutely mental source. Then, again, the very smallest portion of some materials received into the stomach, shall, in many cases, be so diffusive and universal, and even fatal in its effects upon the system, as to be totally at variance with the supposition of any direct or primary change being operated upon the mass of circulating blood. "Il ne faut qu'un léger accident, qu'un *atôme déplacé*, pour te faire périr, pour te dégrader, pour te ravir, cette intelligence dont tu parois si fier."

The fact is, that both as it relates to disorder and remedy, we are still altogether in error when we attempt the application of any comprehensive or commanding principle, such as that of gravi-

tation in the inanimate world; and we must be contented, in the present state at least of our science, with those kind of deductions and assumptions which are open to endless modifications.

Disorder, as the word implies, mainly consists of unequal and *unharmonious* movement — one part is too much excited, and one too little — and to restore is to *equalise;* but the great difficulty is in ascertaining the minor and subordinate principles upon which we are to proceed in our attempts at readjustment. How far, indeed, art may interfere at all, further than by gently facilitating and soliciting, as it were, the readjusting tendency in the system itself, is likewise made a problem; and it is curious to observe the difference of national faith and practice in this particular between our continental neighbours and ourselves. They accuse us of killing our patients; and we retort upon them the charge that they let their patients die, — that is, by pursuing what is called the *expectant* system, and awaiting the sanative operations of nature, they too often expect what never comes, and death comes in its place.

I believe that in this, as in almost all cases where judgment is called in to supply the deficiencies of demonstration, the midway is the safest course. Often, very, very often, have I seen, or, to express myself in the most modest

and moderate terms, I think I have seen the hand of death arrested, and the folds of disease forcibly unloosed from all their twinings, by the judicious interference of bold measures. I wish I could say, on the other hand, that I had never seen a misapplication of the principles implied in the specious and well-sounding terms, boldness and decision, either lay the patient a lifeless corpse on his bed, or induce a fearful and formidable condition of protracted debility, that has rendered convalescence at the best tedious, and often for a long time doubtful.

Some physicians have been Pyrrhonists; and some have aimed to prove what they have conscientiously felt, that the interference of art does, in the long-run, neither good nor harm.* One very respectable author, some few years since, published a pamphlet, well written, and not badly argued, in defence of the hypothesis, that in the case of fever, as an example, it is of no consequence what kind of practice is adopted, whether active or passive, bold or moderate; for in the long-run, and taking a large number of cases into the calculation, the event, under all treatment, would prove precisely the same. But Dr. Young, in the intro-

* It is creditable to the profession, that its members have, at different times, engaged in the question of medicinal power quite in an abstracted way, and have gone fully as far in ridiculing its pretensions as have those whose calling is, as it were, ridicule — I mean the comic poets and novel writers.

ductory discourse to his treatise on Medical Literature, has proved the fallacy of Dr. Brown's inferences, even upon his own showings: and Dr. Good, in his Study of Medicine, has presented a contrast, from the unprejudiced statement of a mere historian, which, while it is horrid to read, both from the circumstances of the case, and the picturesque effect which the author's power has given to the narrative, affords a testimony in favour of medicine of the most unequivocal and unexceptionable nature.*

Art, then, if judiciously applied, must be allowed to be demonstrably available, and medicine, with all its uncertainties, the most useful of arts. In the following investigation we shall proceed upon these assumptions; and while we admit, that a great proportion of practice is properly founded upon a sort of empirical observation, we at the same time assume that there are varied excitabilities, which not only require to be noticed, but which are susceptible, in some degree, of systematic recognition. We suppose disease to be a derangement in the harmony of the system, manifesting itself now in general disturbance, and now in topical affection; and

* See, in Dr. Good's Study of Medicine, an account of a cholera in India, which swept the inhabitants off by thousands, when medical aid was not at hand to arrest the fatal stroke; but which yielded, in an astonishing manner, to the bold and judicious interference of art. Vol. i. p. 264, first edition.

we maintain the necessity of readjusting efforts being founded on the fact, that the local modifies the general, and the general the local disturbance, to an almost unlimited extent. We must presume, too, in especial reference to the subjects which are to be discussed in the present pages, that the nervous organization which supplies the stomach and its immediate appendages, is so constituted, that from this point, as from a centre, sympathetic or consequential maladies shall extend themselves over the frame, which, while they may be the same in degree, shall be almost endlessly modified in aspect and character by constitutional propensity and incidental circumstance; that a lymphatic, a nervous, a vascular disorder, may require, as a stomach complaint, to be so considered and treated; while the detail both of the pathology and practice must have reference to peculiarities that are congenital and inherent.

PART THE SECOND.

CHAPTER I.

Ailments, principally of Children, which originate in, or are connected with, faulty Digestion.

SECTION I.

The constitution which I have termed that of lymphatic susceptibility, is more particularly manifested during the period of infancy, inasmuch as at this time the lymphatic part of the frame is especially summoned to action; and it is in this kind of constitution that those glands which are situated on the mesentery, and indeed the whole of the lacteal, as a portion of the lymphatic system, come to be affected: the disordered action, which is going on here, prevents the due transmission of chyle; there is a resulting want of a due supply of blood; the bony formation does not proceed with freedom, there is, in consequence, a tendency to ricketty deformity, as manifested by the ankles and wrists of children under these circumstances; emaciation occurs, inasmuch as the materials constituting the flesh

and fat are not given to the blood, and, of course, not imparted from it to the system, which is now full of supplying demands; there is a hard, swollen belly, partly, perhaps, from an impediment to the transmission of chyle, but more particularly and positively from an enlargement of the glands themselves, together with the interrupted circulation through the neighbouring vessels, which sometimes produces a sort of dropsical effusion, in the way afterwards to be mentioned; paleness occurs from the same cause that there is emaciation; namely, because the blood is not supplied with good materials; the child is peevish and fretful, because the nervous development partakes of the arterial irregularity, and because there is distension and uneasiness about the stomach and bowels, from the immediate consequences of interrupted function.

We suppose, of course, the malady of which we are now speaking to have commenced with indigestion; this indigestion implies, in some measure, the immediate effects upon the blood-vessels and nerves to which we have alluded in the second chapter; and hence, by the way, is in part explained the uncomfortable sensations and peevish complainings of the little sufferer. But it is not, perhaps, at this stage of existence, so much as in more mature life, that these direct interruptions of function and feeling occur; but the indigestion implies undue chymification,—

and the bile that is poured into the duodenum, although it may be in sufficient quantity, is not of a proper quality,—because its more watery parts, with which it is mixed when it is first secreted, are not taken up by the absorbents of the liver, and the bile is in consequence sent forward to be mixed with the chyme in a condition unfit to operate the requisite changes: chyle, therefore, becomes hardly formed; the mouths of the chyliferous vessels are not supplied with enough material; and the glands on the mesentery thus fall into a disordered train of actions, partly from not receiving their due measure of appropriate excitation.

Thus we see how lymphatic debility, in the infantile constitution, becomes both cause and consequence of *stomach* ailment; and the wasting of flesh and strength, under these circumstances, is sufficiently explained.

But we will suppose the infant, suffering from these sources of disease, to be of that mixture of constitution which has been above designated a combination of the nervous and lymphatic; and it will be easy to conceive in what way a child thus constitutionally circumstanced, shall have the mere wasting disorder of which we are speaking, changed or magnified into a disorder of the brain; in medical phraseology, tabes mesenterica converted into hydrocephalus; it being a law of the system, which

especially manifests itself at this early period, that where due excitement, or regular orderly impulses fail, partial and irregular efforts take their place.

The brain, during the time of infancy, is an organ in which step after step of change is rapidly occurring: that these successive developments of parts and functions should be effected in an orderly course, it is absolutely necessary that the supply of blood be kept in apt adjustment to the demands of the cerebral system; too little at one hour being succeeded by too much the next, and, withal, the kind of blood not being that which the developing organization requires, the balance of powers and principles is overturned; the disordered tendency, which runs through the whole of the lymphatic and absorbent system, is brought into being at this point; an erithism,* as it has been called, or an unhealthy excitement of parts, is engendered by the torpor of the whole; or what, perhaps, is a more satisfactory account of the matter, the circulation is unequally excited, while the lym-

* I do not like hard names, especially when they are made use of in order to conceal a want of definite notion; but the word erithism, as indicative of something between inflammatory irritation on one hand, and mere sentient excitation on the other, is exceedingly expressive. It is thus employed by Dr. Whitlock Nicholl, in a little work on brain disease, which contains some very useful intimations.

phatics continue inactive; the small lymphatic arteries, from their weak and non-resisting condition, expand themselves to the reception and transmission of more fluid than is consistent with their well-being; this undue quantity becomes exhaled in the form of lymph. Too much is, in this way, required from the absorbents, which fail of taking up the exhaled matter; and thus one kind, at least, of dropsy in the brain comes to be the formidable and frightful consequence of *stomach* derangement and disorder in children who have a particular organization and susceptibility.

Now it is during the intermediate state of things, if I may so say, that medicinal interference is often of such decided and unequivocal avail in breaking in upon the series of disordered movements, and snatching the infant from the brink of destructive disease! Snatching, I should hardly say, since we do not operate here as we do in active inflammatory affection — oppose rush to rush, and substitute one powerful impulse for another; but we carefully commence, and cautiously proceed, in the business of reinstatement.

Children are daily brought to me under these circumstances, in whom the state of things is sufficiently obvious to my apprehension, and the remedial indications equally so; but about whom I should be posed were I called upon to give the *name* of their disease: it is a condition of general

disorder; but the morbid excitement, which has been set up from an original derangement in the assimilating organs, will sooner or later come to settle into an organic malady and irremediable ailment, should we delay the treatment till we shall be able precisely to designate the disorder.

We must of course commence our remedial operations by dietetic reformation. If the child, being at the breast, is dyspeptic and wastes away, from the mother's inability to supply a good breast of milk, it will be much better both for parent and offspring, that the substitute of a good healthy nurse be provided,* or that even the business of breast-feeding be given up altogether, and the child sustained by farinaceous food that is as little as may be disposed to ferment. It is not very easy to give, or very proper to attempt to give, rules for diet, of undeviating application; but in the general way, milk with grit gruel,† rusks, biscuit, or barley powder, and arrow-root, are the best materials from which to form the food for the first six or seven months;

* We frequently meet with an amiable reluctance on the part of the mother to resign nursing to a substitute; but there are cases in which, if these objections and scruples be not overcome, it will go hard both with parent and offspring.

† Some persons are afraid of oats in any form for children, as being too heating. The apprehension is, however, unfounded, and I know nothing better, in the general way, for infants, than very good common gruel, with a mixture of milk.

afterwards a small quantity daily of animal broth, either of beef or mutton: the gravy of broiled, or roasted, or boiled meat, may be added to the floury kind of diet. Still milk should constitute the main part of the aliment; and where this alone seems difficult of digestion, it should be mixed with barley-water in equal proportions, by which a sort of artificial asses' milk is produced.*

The state of things, however, which we are now supposing, most commonly occurs between the second and fourth year; and scarcely a day passes me without applications on account of children suffering in the manner above portrayed, in which there is not sufficient of mesenteric ailment to constitute strictly mesenteric atrophy; in which there is not sufficient of brain disturbance to justify the appellation of brain disease; in which the liver, though torpid, is acting with a certain degree of regularity and power; in which, though the bowels are irregular, and perhaps thread-worms are present, you could not con-

* The following is given by a popular author as a good substitute for asses' milk. "Artificial asses' milk," he says, "not inferior in its properties to the natural, may be made by the following process: — Take of eringo root, or sea-holly, and pearl barley, each half an ounce; liquorice root, three ounces; water, two pounds, or one quart: boil it down over a gentle fire to one pint; then strain it, and add an equal quantity of new cow's milk."

sistently with nosological demands, absolutely call it a bowel or a worm case, in which, though the pulmonary system may partake, in a measure, of the pervading disorder, and the breathing and the beats of the heart and the pulse all be what they ought not to be, still you cannot say the malady is one of the lungs, or that it is a state of fever. In a word, although there may be no actual or positive disease, there is a tendency to, or a measure of, almost all diseases; and the predominant tendency to head affection is referrible to the derangement occurring at that time of life when the balance of cerebral adjustment is so easily interfered with; and the occurrence of water in the brain may be partly accounted for, from the slowness of absorbing power in this organ, compared with the activity of its other functions. The brain seems to expand and develop itself in a manner somewhat different from other parts; there is not so much of that constant deposition and absorption as there is in some portions of the growing or evolving organization.

Now, under all these circumstances, and supposing the errors of diet (which shall have been the producing cause of all) to be corrected, what are the other items of which the preventive and restorative process should be made up?

I assume torpor, in conjunction with irritation; that is, while there is a general hebetude over the whole body, and especially of the lymphatics, there

is a degree of inward and arterial activity which requires to be suppressed, or your healing endeavours commence and proceed from a wrong starting point. And now I am going to propound a piece of medical theory, for which I shall be laughed at by some and opposed by others, and which may or may not be correct; but upon which I have been induced to make trial of a remedy that has manifested unequivocal and extraordinary efficacy in accomplishing the purpose for which I have employed it; and the reader is of course at liberty to explain the *modus operandi* of this or any other medicine in his own way. "Sua cuique est ratiocinandi norma, quæ licet eandem consequatur metam, alio tramite illuc deducitur."

The remedy to which I allude is foxglove; and its beneficial influence in cases of consumptive wasting, in conjunction with irritation of blood-vessels, I have been disposed to deduce from the principle, that while the lymphatic organization requires a spur, the arterial impulse demands a bridle; and from the feeling that such a medicinal is plainly pointed out as shall excite the one and suppress the other. Not that I consider the abatement of arterial irritation, which is called for under the assumed circumstances, precisely in the light of a depressing or sedative power; inasmuch as, without going into the controversy whether inflammation in its essence be

debility or action, we may fairly suppose, in the present case, a good deal of passive irritation, so to express one's self, or that species of irritative action which is most effectually met and encountered by a certain kind of exciting agency.

But whatever be the mode of explaining the influence of digitalis, (and I repeat that I am not very anxious about conversion to my own feeling on the subject), certain I am of the fact, that under its use, the quick, inflammatory, or irritative pulse assumes gradually a slow, steady, equable character, the lymphatic torpor is overcome, the tendency to head affection, in the cases supposed, is counteracted, the swelled abdomen subsides; and the child, from having been drowsy, and debile, and listless, and fretful, becomes lively, and alert, and cheerful, and comparatively strong.

I remember, in one particular instance, a friend of mine, Mr. Langley, late of Newcastle Street, Strand, was surprised at witnessing this particular effect upon the pulse under the employment of digitalis, from his having commenced its exhibition with very different anticipations. He wished me to suggest something for two children who had that dropsy of the surface which occasionally succeeds scarlatina, and which was accompanied by so much of arterial excitation, marked by the extreme rapidity of the pulse, that he was fearful of administering steel, or any other

medicine of the tonic class. I recommended the gradual introduction into the system of foxglove, which was followed by the happiest effects: but Mr. L. was, as I have said, more especially struck with the operation of the medicine upon the pulse; for, as he gradually increased the dose, the celerity of the arterial beats not only came gradually down, but as they decreased in number they gained in strength and steadiness; and the children, unassisted by any other medicine, had their dropsy cured, and their strength restored.

In adducing cases of this nature, I am wandering, it will be said, from the topic of ailments connected with digestive derangements; but I have adverted to scarlatina, or rather to its occasional consequence, because under these circumstances, both the lymphatic and arterial condition seem precisely that to which the drug applies; but, on the head of dropsy, I shall have to offer a remark or two in another place.

In recommending foxglove for wasting disorder connected with effusion on the brain, or the disposition towards it, I must not be understood as either limiting my practice to its administration, or as holding it up as a catholicon, and applicable to all cases. The very complication of circumstances that I have assumed as characterizing disease generally, is inconsistent with this expectation; and there is no medical man of sense and honesty, but who is aware, and

ready to confess, that a varied susceptibility of being acted on in different individuals interferes largely with analogical expectation, and prevents the possibility of predicting invariable results.

The liver, in mesenteric disorder, is almost constantly affected; and, as well to counteract this as to meet the wants of the case generally, small doses of mercurials are occasionally called for; and out of these I find none that I can select more mild, and at the same time efficacious, than the hydrargyrus cum cretâ of the shops. Two grains of this every night, or every second night, for a child two years old; and a minim and a half, or two drops, of the tincture of foxglove three times a day, gradually increased to three or four minims, will often be found equal, without any other assistance, to the effecting a marked and happy change in the condition and appearance of the little patient. When an aperient is required, the combination of a few grains of tartrate of potash with tincture of rhubarb and dill water, will be found serviceable.* In some cases, where the torpid state of the liver assumes a more decided character, and it becomes hard and enlarged to the touch, the addition of dandelion to the other medicinals may be made with advant-

* ℞ Tincturæ Rhæi, ℥xx.
Potassæ Tart. ʒss.
Aquæ Anethi, ʒiij. Ft. haustus quotidie, mane, sumendus.

age; and this may be administered in the form of extract, or infusion, or both.* I may take this occasion to say, that the dandelion, in my judgment, is not sufficiently appreciated at the present day.

I have a little patient now under treatment, the son of an eminent artist, whose wasting of flesh, and general enlargement of the abdomen, is evidently connected with an enlargement of the liver, and who is most satisfactorily gaining ground under the use of the medicinals above recommended. Were it indeed consistent with my present plan to register and record cases, I might fill page after page with their recital. But I shall be satisfied if my reader receive the general fact of the efficacy possessed by foxglove in these lymphatic disorders, with or without the other deobstruents mentioned, according as there shall or shall not be evidences of liver complaint, as well as affection of some other portions of the secretory organization.

It is said that an individual, who has obtained a great celebrity in the treatment of scrofula, but whose medicinals are not made public, employs mainly, and almost exclusively, large doses of digitalis. Now men of this description have this advantage over cautious and regular prescribers,

† ℞ Extract. Taraxaci, ℈ss.
Sp. Ætheris Nitric. ♏xij.
Infus. Rhæi, ℥iij. Ft. haustus bis in die, sumendus.

viz. that one case of astounding interest, with a successful result, proves to them more than a counterbalance for numberless others, — just as a single coincidence of preconception with occurrence tells to the support of a belief in ghosts more than hundreds of failures; and I think it probable that the drug in question may have been administered by the individual alluded to, to such an extent as to endanger the safety of the patient during the process, but to have brought him eventually through his malady.

One case, which some time since came under my care in Lambeth, made a considerable impression on my mind, in consequence of the frightful, but, in the end, successful operation of the foxglove. It was a case in which I had not been consulted until the wasting glandular disorder had terminated in decided dropsy, not of the brain, but of the belly; and the contrast which the general emaciation of the child presented to her large protuberant abdomen, was exceedingly striking. Here, under the feeling that it was right to go much further with foxglove than in a common case of mesenteric wasting, I mounted up the medicine to fourteen or fifteen drops for the dose; when, on my visit one morning, I was told that the child had been seized with a fit, which lasted some time, and which the parents apprehended would prove fatal; but from that moment the amendment, which was only before

slow and gradual, now became manifest and rapid; and I ran down the scale of the medicine with more rapidity than I had ascended. The child (she was six or seven years old) is now quite well.*

It is, then, my opinion, that pretty large doses of digitalis might prove of great service in some fearful manifestations of lymphatic affection. But it is not these bold affairs and fearless measures with which we have to do; these are not the weapons of our warfare; and, indeed, independently of the obvious objections to practice of this kind, I should feel that the principle I am aiming to inculcate would be a little interfered with by these enormous doses of a deleterious drug. It is a gradual, steady influence which I aim to procure in the cases for which I prescribe it; and in these small and gradually increased quantities, it should seem (my reader will say I cling to my theory) to operate simultaneously the requisite effect on the two orders of vessels — to suppress the one, and excite the other.

* I may here introduce a caution to the young practitioner against increasing the dose of foxglove to a very large amount, without fear of consequences, because no unpleasant effects manifest themselves, day after day, for some length of time. This, and some other active drugs, will often suddenly, and in the way of multiple, display powerful operation, although up to the point of such violent action, they shall have seemed to be almost without influence.

Against the principle of detailing cases I have just entered my protest; but I have recently seen the only remaining child of a family, the members of which had fallen off in succession, all in the same manner; they became emaciated in the first instance, and eventually showed marks of head affection previous to death. The child to which I allude, was described to me by the mother, "as going the way of all the rest;" and there was very little expectation, on her part, of much good to be done. The outside of her calculation was a little alleviation of the infant's sufferings, and an improvement in her night's rest. Under the treatment, however, it gradually, to the surprise of the parents, emerged from its weak and wasting and irritable condition — and the mother now occasionally brings it to me with grateful feelings, as a trophy of success.

In the case to which I alluded before this last, digitalis was given alone and exclusively; but in this case I combined it with opium and calomel, according to the formula below.* The medicine was subsequently given without the calomel, occasional doses of the hydrarg. cum

* ℞ Pulv. Digitalis, gr. ij.
Hydrarg. Submuriat.
Opii præp. pulv. āā gr. j. M. et divide in chart. viij., quarum j. noctè manèque dand.

cretâ substituted in its place, and an aperient introduced according to circumstances.

Here I may take occasion to say, that the judicious use of opium in children's complaints, even when the disordered actions shall have extended themselves to the brain, may often be productive of much and lasting good. I am afraid that, — from the known tendency of opiates injuriously to affect the head, and from a justifiable horror of having recourse to a deleterious material for the mere alleviation of temporary sufferings,— we have in regular practice slidden too far into an opposition against its administration. I admit that its employment demands much caution and prudence; but I am sure that, caution and prudence being employed, it may often, by arresting irritation, even become radically serviceable. I prefer using the opiate in divided doses, as indicated in the prescription on the other page, or giving one drop of the tincture, or administering it in the form of the compound ipecacuan powder; half a grain or a grain of which, with a quarter or a sixth part of a grain of calomel, will serve our purpose in the most kindly manner. I prefer, I say, for the most part, the opium itself to the syrup of poppies, which is in so much use in children's complaints. It is capable of more accurate division in dose, and is generally more certain in its effects. The uncertain and irregular

action of the poppy syrup is, indeed, remarkable. I have known the twelfth part of a drachm followed by a torpor which has given rise to the suspicion of pressure on the brain; while at other times you may administer it to the extent of half a drachm, or more, almost with no apparent effect.

I have thus given the reader, in a few words, the state of my feelings and the result of my experience in affections which, originating in a depraved condition of the *stomach* and assimilating organs, either run on into irremediable disease at the time, or sow the seeds of future ailment, which shall in after-life be developed in affection of the chest, or, perhaps, in brain derangement; and, in concluding this division of my subject, I beg again to protest against misconception. I am not holding up digitalis, or any other drug, as possessed of positively specific efficacy; — I am not saying that the individual who knows how to graduate its dose, and regulate its powers, is furnished with all the knowledge that is demanded in the cases referred to; — I am not even to be understood as pronouncing upon the invariable power of the medicinal, whether alone or in combination; — I am only declaring that, in my hands it has been, and in the hands of others I am sure may be, of the most essential service towards materially assisting, to say the very least, in the general management of

atrophic, and hectic, and brain disorder, originating in faulty assimilation, and verging towards a formidable and fatal issue.

SECTION II.

I HAVE supposed, in a previous chapter, that the lymphatic constitution is occasionally so mixed up with the sanguine, that you can scarcely say on which side lies the preponderance: it is in cases of this combination, that stomach derangements will come to be productive of a brain disorder of a more decidedly vascular kind — that is, more in the way of impeded circulation in one part, and consequent accumulation of blood in another. Here the phrenitic hydrocephalus of authors is produced, marked by high irritability, intolerance of light and sound, a torpid or a too free bowel, sometimes a flushed appearance of the countenance, a hard and frequent pulse; and, in fine, all the manifestations of brain disturbance, of a more decided kind and vascular showing. In this sort of head affection you find frequently a division into three stages. You have, first, the period of irritation, as just indicated; and here let it be remarked, that the particular kind of irritation depends very much upon the portion of the brain that shall be acci-

dentally implicated in the disorder: inordinate susceptibility to the light, and subsequent squinting, are put down by authors as characteristic symptoms in phrenitic hydrocephalus; but I examined a child, no longer ago than yesterday, who died of brain disease, and for whose recovery some hopes were entertained to the last, grounded on the circumstance, that vision, during the whole course of the malady, was not interfered with. In the brain of this child we found the parts about the optic nerves were especially free from inflammatory marks: and I mention this particular, for the sake of cautioning the young practitioner against building his hopes upon the absence of one, supposed to be necessary, symptom.

There is another sign which you often, but not always have, under circumstances of brain irritation, viz. a noisy croupal kind of breathing, which, by the way, is a very common occurrence when the malady has originated from difficult teething. While I am attending to patients in the room with me, I occasionally hear sounds from children that are waiting without, as if they had the croup; but upon having them in, the investigation proves, that the noisy respiration, or gulpy kind of breath, is dependent upon a disorder of the head, and which may be referred to that connexion between the brain nerves and those of respiration, which has been pointed out

in a preceding chapter. I do not know, indeed, whether this particular symptom may not be rather peculiar to the hydrocephalus which shall have resulted from an irritation in the gastric nerves; and if so, it is a sympathetic, rather than a cerebral mark: but even if that be the case, the symptom itself must be connected with an irritation at the origin of those nerves which connect the par vagum and the sympathetic with the nerves more especially of the pharynx and windpipe. I wish, however, to call attention to the facts, from having witnessed a good deal of puzzle in accounting for those serious affections of the breathing in children, whether with or without noise; while there does not appear any reason for supposing an actual disorder either in the air passages or in any part of the respiratory apparatus.

But to return to the phrenitic hydrocephalus. You often, as above intimated, find the first stage of excitement continue for some days;—you have then the stage of oppression, with a remarkably slow and sometimes intermittent pulse, which shall exist for some days longer;—and, finally, there is the third stage, at which time the pulse runs with much more celerity than at first:—you have now also screamings and convulsions; and should the disorder implicate that portion of the brain which is connected with the origin, or rather with the passage of the nerves

of the eye, you have squinting. But, than this last, perhaps, a much more constant and unequivocal manifestation of brain disorder, of a bad kind, is a roll of the head, first on one side and then on the other, with an inclination to throw it back upon the nurse's arms, when she attempts to place the child in an erect position.

There is another thing connected with this sort of disorder which it is right to recollect, viz. that after the stage of depression shall have manifested itself for some time, a deceptive appearance of amendment mostly shews itself; and to such a degree, that, unless you are aware of it, you may be likely to pronounce the infant to be recovering, just at the time when alarming changes are about to present themselves. But I must not go further into description and detail, and diagnosis, since I do not propose a full and systematic delineation of any disorders that are to come before our notice. General intimations and leading circumstances are all that we profess at present to engage in.

When *stomach* irritation, or stomach distension, or a disordered sensibility of the stomach nerves, shall have assisted in producing the kind of hydrocephalus about which we are now concerned, it is obvious enough, that in the treatment, prime consideration must be given to these derangements, and purgatives administered that shall operate speedily and mainly upon the upper

portion of the alimentary canal.* In conjunction with the employment of leeches, which are, for the most part, requisite, small doses of elaterium will sometimes prove especially efficacious in arresting the inflammatory action of the brain; which, if not speedily stopped, terminates in effusion. One of my pupils at the Dispensary first suggested the use of this medicine to me in active affections of the brain, and I have often administered it since with most decided advantage, both to young children and adults.†

After the effusion shall have been effected to any considerable amount, we have not, in the general way, much to expect from remedial trials; and with regard to mercurializing the system, which has obtained some credit for dropsy of the brain, I can only say for myself, that I have employed mercury, and seen it employed by others, to a very large amount, and in a great number of cases, but have never been satisfied that the disease has been cured by it.‡

* ℞ Hydrarg. Submuriat. gr. ij.
Pulv. Jalapæ, gr. vj. Ft. Pulvis.

† It is of great consequence that much attention be given to using the elaterium fresh — the eighth of a grain will prove a sufficient dose for a child, provided that the virtues of the preparation are such as they ought to be.

‡ Many other physicians give opposite testimony. My late friend, Dr. Temple, but a short time before his death, succeeded by mercurializing the child of his next-door neighbour —

Nature, in these cases, occasionally operates wonders, whether assisted or not by art; and in a very few instances which I had looked upon as hopeless, under the feeling that a large quantity of fluid was poured out upon the brain, I have met with extraordinary success from the internal administration of the cantharides tincture—a medicine which I was first induced to try in consequence of a remarkable case narrated to the Medical Society of London by Dr. Merriman—and in which its use was followed by a very copious discharge of urine; and the little patient, to the surprise of all, both physicians and friends, completely recovered.*

It is right, however, to say, that although I have seemed to succeed with this medicine in some most unpromising cases, its use has failed me in many others; and, indeed, the altogether of this kind of hydrocephalus, unless strangled, as it were, in its birth, by active measures, has ever appeared to me a much more unmanageable

which child, according to the statement of Dr. T., was in the very last stage of hydrocephalus. There are, however, occasional mistakes on this head. I remember, some time since, attending a child at Islington, in conjunction with Dr. T., in which the marks of water on the brain were supposed to be unequivocal, but upon inspection after death this was not found to be the case; indications there were, indeed, of the brain having been highly excited, but there was no watery effusion.

* The dose may be about four minims for a child two years old, frequently repeated.

and resisting complaint than the gradual, insidious, lymphatic, tabid sort of disorder which we have just been engaged in considering.

But it is never right to give up even this till towards the very last; and then the use of opiates, in the form of the compound powder of ipecacuan, joined with very small doses of calomel,* may, at the least, occasion a very considerable alleviation of suffering, without doing any possible injury.

SECTION III.

INFANTILE convulsions occasionally connect themselves with every degree and species of brain irritation; but they are more especially the consequence of *stomach* disorder, when the constitution is of that kind which we have just considered; or rather, perhaps, where the nervous and vascular tendencies are more conspicuous than those towards lymphatic ailment. They have, in general, also a double source; that is, the digestive organs shall be out of sorts, partly, perhaps, because the brain is not in a healthy condition. Upon this predisposition the irritation of teething shall fall, the bias of things is already

* ℞ Pulv. Ipecac. comp. gr. j.
Hydrarg. Submuriat. gr. 1-4th. Ft. Pulvis.

towards brain disorder, and the process of dentition shall prove, under these circumstances, of sufficient force to bring the disposition into actual and frightful display — frightful — for of all the maladies which are incident to the frame, infantile convulsions are the most so.

As these are ingrafted upon different habits, so they occur under different conditions of the brain itself; sometimes being the result of an over-fulness merely of vessel; at other times, the state shall be that of positive inflammation; and occasionally, nay, not seldom, all the distress is the direct and unintervening result of nervous irritation — a decided asthenia, as the disciples of John Brown would express themselves. The treatment must, of course, vary with the varying circumstances and causes.

It should never be forgotten that excitement and inflammation are not necessarily one and the same thing. You may have an immense deal of brain disturbance, more especially when it is of that consecutive and sympathetic cast which it is the business of this treatise more particularly to recognise: — you may, I say, meet with a vast measure of cerebral irritation, which shall be an index of any thing but an inflamed brain. Not but that in these cases sometimes blood-letting, to a certain extent, is required; but I know of no more dangerous axiom for practical guidance

through cerebral irritation, than that which would speak of blood-letting as having no limits but the cessation of the disorder for which it was instituted.

Nothing is more difficult than to lay down precise rules of undeviating application in reference to these particulars; and one is always apprehensive, in cautioning against profuse and indiscriminate blood-letting, of being thought totally unfriendly to the practice: than this, however, should this construction be put upon what I am advancing, nothing can be further from the truth. Were I obliged to practise medicine with only one power — were all but one denied me, but the choice given me of that one — I believe I should say, leave me the liberty of abstracting blood when I want it. But of this I feel convinced, (to return to the subject of convulsions,) that detracting measures, however necessary, ought to stop at a certain point — and that you must not let the repetition of the fits be the signals that more and more blood is demanded till they shall cease. They will, indeed, at length cease under this treatment — but then it may be such a cessation as that which terminated the convulsions of the Carthaginian queen — "Omnis et unà dilapsus calor, atque in ventos vita recessit."

I have already said that opium, by judicious management, may be brought to act very kindly

and beneficially, in affections of the head; and it is more especially, I think, applicable to sympathetic disorder. I have an opinion with respect to the agency of opium, after blood-letting, in these cases, which, whether it be well or ill founded, I constantly act upon, namely, that the drug in question prevents re-action, and thus supersedes the necessity of repeating the blood-letting so much and so often as would otherwise be the case.

We know that the great principle of medicinal aim is, or ought to be, at something radical and permanent. We also know that blood-letting often does immediate good at the expense of after evil. I am not now alluding to the weakening, exhausting effects of the measure, but to the rush of blood again into the emptied vessels, and the consequent reproduction of the original disorder in a greater measure than at first. Now it would seem that opium exerts a particular effect upon the small capillary system of vessels, which is proved by the tendency it has to lock up secretions. This effect is contractile; and we may then suppose, that the medicine, by contracting or lessening the diameter of the capillaries, may prove preventive of that rush of blood again into them which is so apt to succeed to depletion of vessels. Dr. Armstrong, and others, in advocating the practice of administering opium after blood-letting, urge, as far as I recollect, the

immediate introduction of it upon the depletory process being over; and its utility manifesting itself in proportion to its prompt exhibition, appears in harmony with my assumption. In this instance, however, as well as in regard to the *modus operandi* of digitalis, I should rather insist upon the fact, than be desirous of urging the theory; and I would also be desirous of saying, that opium, although a valuable, is an edged tool to employ under circumstances of head irritation. It is better that none at all be administered, than that it should be given too much, or at improper times.*

There is one practice, which, like blood-letting, is too indiscriminately resorted to for convulsive affections, viz. that of immediately plunging the child into a hot bath. Warm bathing, where stomach plenitude, and consequent vascular fulness, has brought on the disorder, may, by adding to the fulness and propulsion, be injurious; but when the stomach condition shall have been rectified by a brisk purgative, and when the plethora shall have been reduced by the application of leeches, then the effects of warm water will

* Dr. Currie states, that opium may be most safely and advantageously administered when the stomach is empty, and the skin in a transpirable state. On the contrary, that it is seldom admissible in a repleted condition of stomach, and when the skin is in a state of febrile aridity, unless it be so managed as to produce perspiration.

be found those of calming irritation, soothing morbid feeling, and equalizing the circulating impetus.

In reference to emetics, opinion varies; and these are by no means medicinals to which recourse should be had unreservedly, or without qualification; but stomach repletion is, of course, best got rid of by them; and at times, when there is not too much of commotion in the system, or too great a fulness of vessel, or too much sinking condition, they may arrest incipient disorders, and supersede a continuance of remedial measures. It is right, in the general way, that the emetic, in these cases, be compounded of ipecacuana, with a very small quantity of tartrate of antimony; for the latter, by virtue of its diaphoretic power, is calculated to act upon the superficial vessels, and thus to assist in the great business of equalizing the circulation.

Purgatives are of obvious utility; but even these are materials not to be played with. I have seen fits both cured and brought on by calomel; and when this drug has acted thus deleteriously, it has appeared to me to have done so, not so much from its weakening tendency, as by calling the diseased sensibility of the stomach and bowels too much into action.

In all cases of infantile convulsions, more especially when the original source of them may have been stomach repletion or digestive organ

irritation, change of air, as speedily as it can be procured, is in the highest degree desirable. I wish to insist upon this particular, because I have seen it of such unequivocal advantage, and because I think, in general, the minds of neither practitioner nor parent are sufficiently alive to its benefits.

Of all the great advantages, I have said, in another place, that have been procured to mankind by an improvement in medicine, these two stand in the front — that we have come to employ food less copiously and fresh air more freely. "The benefit of free air was placed in the clearest light," says Dr. Garnett, "by what took place in the lying-in hospital at Dublin; 2944 infants out of 7650 died in the year 1782, within the first fortnight after their birth, which is nearly every third child. They almost all died of convulsions; many of them foamed at the mouth, their thumbs were drawn into the palms of their hands, their jaws were locked, the face was swelled, and looked blue, as if they were choked. This last circumstance led the physicians to conclude that the rooms in the hospital were too close, and hence that the infants had not a sufficiency of good air to breathe; they therefore set about ventilating them better, which was done very completely. The consequence has been, that not one child dies now where three used to die."

Even now, however, when called to cases of

infantile convulsions, we often find hot fires, and multitudes of nurses, and the steam of the bathing tub, and small unventilated apartments, doing, or appearing to my conception to be doing, much more harm than the leeches, and the warm bathing, and the calomel, are doing good. But it is not merely air, but *change of air*, that will often be found in these cases so beneficially to break in upon the morbid habit, and put a stop to the terrific repetition of the convulsive disorder.

I was much impressed some time since with the forcible manner in which Mr. Fernandez, of Lamb's Conduit Street, dwelt upon this principle, or rather fact. "I had given," he said, "my child into the hands of a celebrated individual, whom I knew to be an able man, but who I knew, at the same time, was more partial to copious and repeated bleedings than my own observations and feelings justify; but the infant was committed to his care, and interference was, on several accounts, improper. I had determined, however, did not my friend make his appearance according to his appointment, to act at once from my own impressions — to drag the child from the sick chamber, where, in spite of treatment, he was getting worse and worse, and to try the effect of change of air. We had not got a mile from home, when things assumed a more pleasing aspect — and there was no more bleeding, and no more convulsions."

All these things prove that there is something more in the workings of morbid state, than the philosophy of morbid anatomy dreams of. The whole organization becomes deranged by probably a derangement primarily in the digestive apparatus — irregular impetus of the circulation is the consequence. This irregularity in the vascular system assists the disordered tendency in the nervous powers — it must therefore be countervailed often with largeness and freedom; but it should never be lost sight of, that it is the condition of the impelling power — that it is the deranged state of nervous being, which has been primarily and mainly at fault — and you may open a head and find it even gorged with blood after death, without its following, as a matter of course, that large and unlimited blood-lettings would have cured the complaint.

Of convulsions, one of the most prolific sources is difficult dentition. Indeed this is always to be suspected as a cause even when it is not immediately obvious; and I am disposed to think that more than half the cases of water in the brain owe their origin to it. When the system is in that morbid state of being which digestive derangement induces, it may easily be conceived how unfit it is to encounter the irritation, at all times considerable, of teeth protrusion. In every instance, then, of much menace from teething, the preventive and remedial treatment ought to

commence early. Antacids and aperients should be thought of for meeting the morbid condition of the stomach and bowels; a few grains of pure magnesia, with half a grain of subcarbonate of ammonia, or two or three minims of spiritus ammoniæ aromaticus, will be found serviceable in this state of things; and if the bowels be not sufficiently acted upon by the magnesia, a little tartrate of potass, with a few minims of tincture of rhubarb and a little dill water, (which last medicine appears to me more than a mere vehicle,) may be occasionally interposed; and very often incipient mischief is prevented from going on by one or two grains of calomel over night, to be succeeded in the morning by the aperient just mentioned.

A free lancing of the gums is, for the most part, to be recommended—a practice from which we must not be deterred by the notion of producing a cicatrix, which the teeth will find more difficulty in pushing through than they would have done had the gum not been interfered with. I believe, indeed, the contrary to be the case—new parts are more easily separated than old ones; and if we do no good, we do no harm by the liberal use of the gum lancet in cases of irritative dentition.*

* It is a curious fact, and one which proves that a great deal is effected through atmospheric influence beyond our perception, that the convulsive irritation produced by teething is

But in all instances of disturbance occasioned by teething, the stomach and bowels must, as above intimated, be sedulously attended to — the nurses must be especially cautioned now against over feeding — pure air is imperatively demanded — and antacids, with gentle purgatives, (magnesia being one of the best, as accomplishing the double purpose of neutralizing acid and acting as an aperient,) must be carefully resorted to.* The great principle, indeed, of preventive treatment (that is, of preventing convulsions and water in the brain,) consists in preserving the digestive and assimilating power in an orderly state of exercise, and thus so obviating a morbid sensibility of the stomach nerves, as that the dental irritation shall fall upon the frame with less force and effect.

more conspicuous sometimes than at others. For weeks together, a medical man, in much practice, shall find a more than ordinary number occur of convulsions from teething; and then, for several successive months, he shall meet with very little of it.

* ℞ Magnesiæ, gr. iv.
Sp. Ammoniæ Aromat. ℥ij.
Aquæ Anethi, ʒiij.
Syrup. simp. ʒj. Ft. Haustus.

SECTION V.

Worms are so decidedly connected with disordered digestion, that to pass over their consideration in a treatise like the present, would not be at all correct. They are, however, very frequent concomitants of the other ailments to which we have been alluding, and frequently, to my conception, are engendered rather from a disordered state of the brain and nervous system than from a primary affection of the stomach.

Their general indications are a large pupil of the eye, with a darkness round the whole organ, more especially under the lower lid, variable, capricious appetite, foulness of breath, muddiness of countenance, fretful temper, disturbed sleep, grating of the teeth during sleep, itching of the nostrils, so that the little patient is constantly rubbing or picking the nose; itching also in the rectum, irregular bowels, wandering pains about the chest, and stomach, and limbs, occasional headachs, and convulsions. Indeed, there are no disordered conditions that do not occasionally present themselves in connexion with stomach or intestinal worms: and when the young practitioner is at a loss to account for this or that symptom, it is always right to set about his investigation into its source, under the feeling that worms may have something to do with it.

It is, however, a question in my mind, whether the actual presence of worms may not oftentimes be rather one of the effects of, or circumstances connected with, deranged feeling and action, than themselves the source of them; and whether nearly the same effects would not have taken place from the circumstances attaching themselves to disordered digestion without the actual production of the parasitic animals: that this, however, is not invariably the case, is, on the other hand, sufficiently evident; and we often find sympathetic affections of the head simulating brain disorder — of the lungs giving rise to suspicion of consumption — of the limbs actually producing temporary palsy — and, in a word, affections and derangements of every part and of every portion of the frame, which shall be so evidently the effect of the presence of a worm or worms, that their ejection shall immediately set all to rights again.

The general division of worms is into the thread-worm (ascaris), the round worm (ascaris lumbricalis), and the tape-worm (tænia); — the first being found principally in the lower bowel; the round worm, for the most part, occupying some part of the canal between the duodenum and the commencement of the colon; and the last often extending itself along the whole line of the alimentary passage, and occasionally making its way up through the gullet into the mouth.

The mode in which they are engendered is still far from being accurately ascertained: equivocal or spontaneous production, as it has been termed, seems, in some measure, revolting to the feelings, inasmuch as it connects too much the organic and inorganic world; and individuals would also, in the general way, rather suppose that the eggs of these parasites, somehow or other, get into their systems, than that the animal was the actual result of some process taking place in their own interior.

It is often, however, to say the least, exceedingly difficult to trace them up, even in idea, to an ovate primordium; for we know that a child will sometimes be troubled with thread-worms, who, from birth, shall not have taken a particle of any thing into its stomach but the healthy milk of a healthy mother: and in these cases, as well as in many others, there is every collateral circumstance to favour the presumption, that the origin of worms is referrible to some formative power in the bodies that the worms infest. We are not, however, able to pronounce positively upon causation beyond this, that stomach irritation causes an increase of mucous secretion from the membrane lining the intestines, and that this mucus is the nidus in which the animals or animalculæ are generated.

And this principle being admitted, we are at once led from it to the principle of radical treat-

ment; for by confining our notion of vermifuge agency to mere expulsion or destruction, we should not only effect but half our purpose, but often be quite mistaken with regard to what we do effect; and I am inclined to think, that when loads of worms are expelled from the bowels after the administration of some of the violent medicinals, the medicines themselves have gone some way towards the actual production of what they expel; that is, they increase the mucous secretion out of which the worm is engendered.

At any rate, I have known individuals, adults as well as young, teased with ascarides, which shall return and return again, in spite of purgatives and correctives, but who shall soon and permanently get relieved of them when the nervous system and the digestive organization are brought into an improved condition. Change of air, and of scene, and of general excitement, will often prove the best vermifuges.

When medicinals are necessary, the turpentine seems best adapted to dislodge the tape-worm,* the Indian pink appears the most efficacious for

* One fluid ounce, or more, may be given of the oil of turpentine, which is less likely to produce a disordered irritation of the kidneys in these large doses, than when administered in smaller ones. I am, however, in the general practice of joining equal quantities of castor oil with the turpentine, which tends, without lessening its power, to prevent unpleasant effects of the nature alluded to.

the round worm,* and scammony, aloes, and calomel, for the thread-worm.† The troublesome itching of the rectum that these last produce, will occasionally yield to a lotion of tobacco infusion, made pretty strong. Injections, too, made with a solution of aloes, or injections of lime-water, or, indeed, merely cold water, will often be found very useful in destroying the thread-worms that infest the rectum.

But, I repeat, stomachics and tonics are the best remedies against worms. Some of these, indeed, appear to operate a double effect, viz. that of destroying the animal directly, and of strengthening the stomach and bowels, so as to prevent their regeneration. Of medicines which act in this double way, the rust of iron, or precipitated carbonate, in combination with rhubarb, ‡ may be instanced as one of the best; and it is especially applicable to the round worm. The vegetable bitters too, the quassia, calombo, and gentian, may all be used with the best effects as stomachic anthelmintics. The warm essential

* Previously to administering this, an emetic is sometimes employed. The dose of this (spigelium) is from five to fifteen grains for a child, and from one to two scruples for an adult.

† ℞ Pulv. Scammoniæ comp. gr. v.
Hydrarg. Submuriat. gr. ij.
Aloës Spic. Extract. gr. j.
Ol. Menthæ Pip. ℥ss. Ft. Pulvis.

‡ ℞ Ferri Subcarbonat. gr. xxv.
Pulv. Rhæi, gr. xij. Ft. Pulvis. (For an adult.)

oils seem often to manifest a power of expelling worms, more especially the mint oils. I have frequently known the round worm come away after the employment of mint or peppermint water, given as an adjunct to stomachic medicines, when the existence of the worm had not been suspected.

Mental stimuli, as above intimated, often prove powerfully influential in preventing the generation of worms. I am acquainted with an individual, who, while under circumstances of agreeable excitement of the mind, is never conscious of the presence of ascarides, and probably does not have them; but so soon as he becomes listless, and is away from the source of pleasurable feeling, indigestion, and, in him, its concomitant, thread-worms, trouble and harass him to a very considerable degree. So important is it, in all these affections which implicate the stomach and nerves, with their multifarious dependencies and manifold symptoms, to think of mental excitation as well as physical counteractives — so necessary and proper does it often become, on the part of the medical practitioner, to seduce his patient into pleasurable courses, and to cheat him, as it were, out of his disease.

But it was principally to the consideration of children's complaints that I intended, in this division of the treatise, to confine myself.

SECTION VI.

The mode of connexion between the stomach and those ailments which we are now about to notice, is not, perhaps, so obvious as in the case of some others; but that a nervous relationship is established between the first passages and the general surface of the body, is familiar to the observation of every one.

Over the whole alimentary and intestinal surface a membrane is spread which secretes mucus, and which membrane is possessed of very peculiar sensibilities, or rather susceptibilities, for occasionally, without any conscious perception being called out from irritating matters applied to its surface, much of sympathetic commotion will be produced by such irritant, which shall manifest itself in different and distant parts; and this manifestation on the surface of the body is often of a very marked kind. Some persons cannot take into the stomach any kind of shell-fish without the almost immediate production of a species of nettle-rash; and although this happens in a decided way only now and then, the idiosyncrasy may, perhaps, be regarded as merely a forcible illustration, or a large measure as it were, of a consequence, which, in a greater or less degree, happens to all; in other words, that all are liable to more or less of skin irritation from

receiving into the stomach what is offensive to that organ — what is difficult to be digested — what calls forth a morbid perceptibility of its secreting surface.

I felt myself a degree of the same affection not longer ago than the day before I am penning these remarks. Arriving at home fatigued and hungry, I partook pretty largely of veal, — a meat which is almost invariably of more difficult assimilation than mutton; shortly after dinner, I could not divest myself of the notion that insects were crawling on the surface of my body; and, with this cutaneous irritation, I felt that sensation in the stomach itself which tells you, that either the kind or the quantity of your meal has not been the thing.

That disorder of the surface has to do with disorder of the stomach, cannot indeed admit of question, however difficult it may be anatomically or physiologically to trace the connexion. Sometimes, indeed, a reverse sympathy, as medical men have termed it, is conspicuously shown between the alimentary canal and the exterior of the body; that is, by affecting the one part with an irritative disordered action, you, in the same measure, arrest the disorder of the other. In those affections, for instance, to which our attention has been but just now turned, viz. worms, or rather their consequences, one of these is often a troublesome itching in the skin; and

when that does take place, the irritation in the membrane of which we are speaking is less severe: but a much more marked instance of reverse sympathy between mucous surfaces and the superficies of the body is afforded by what takes place in some of the rashes that are occasioned by a specific poison, the measles, for example. Every one knows, that when a full crop of this eruption comes out on the skin, the internal inconvenience, if we may so express it, is comparatively small; and, on the other hand, the non-appearance, and, still more, the subsidence of the skin irritation, is followed by feelings and symptoms which prove the rush of the malady to be made upon the internal or mucous membranes; and whether the chest or the alimentary canal be the part thus vicariously to suffer, the principle is the same, and the same kind of mucous surface is engaged with the virulence of the disorder.

Upon this accordance, then, or sympathy between internal membranes and the external surface, we shall find many cutaneous affections regulated, both as to their origin, their course, their variations, and their decline. Many, we say, for they are manifestly not all so related; and one, perhaps, of the most useful kind of investigations which might be engaged in, with respect to the peculiarities of these Proteus-like affections, would be that of endeavouring to ascer-

tain which are, and which are not, actually disorders of the interior, in the way now indicated.

A modern author has judiciously, in my mind, made the existence or non-existence of internal ailment one of the hinges upon which his classification turns of cutaneous malady; — and in so doing, he has, perhaps, been better employed than inventing hard names of designation, or attempting a division into species from mere external marks.

The porriginous affections of authors, Mr. Plumbe includes among those which are evidences of constitutional irritation, and which are not to be safely treated but with a due regard to the condition of the digestive organs and first passages; — several of the active pimples which have obtained the name of lichen are decidedly thus connected — so is the nettle-rash, and that condition of skin called prurigo, or general itching, and the shingles. While the leprous or scaly diseases, some of the impetiginous or scabby, with most of the tubercular, vesicular, and some pustular affections, including the varieties of itch, are disorders which commence and terminate as cutaneous maladies, and in which local correctives, astringents, and repellents, may be employed without any apprehension of constitutional derangement as a consequence.

I do not mean to present this as an absolutely

correct arrangement of the author to whom I have referred, nor do I think the arrangement itself throughout tenable; the idea, however, is good, and the question ought always to be put to himself by the practitioner, how far does this affection of the surface seem to have connexion with what is passing within?

It should be observed, however, that the good effected by internal medicinals in external ailment, is not always in proof that any thing more than the skin has been, from first to last, engaged with the morbid action. One of the most effectual remedies that I have found in chronic eruptions of various kinds, is the internal administration of sulphuric acid. Its utility appears to depend upon the power it possesses of giving a general tone and energy to the frame, including the external surface; and it is conspicuously of service in the common itch, and in leprosy, and in some of the tetters, all of which are mere skin derangements.*

Then again, the principle to which we have just alluded of reverse sympathy may apply in the internal treatment of actually exterior disorder, which, though it might commence and ter-

* ℞ Acid Sulph. dilut. ♏ xx.
Syrup. Papav. (alb.) ℥j.
Aquæ puræ, ℥iss. Ft. Haustus ter in die sumendus. (For an adult.)

minate, be corrected and repelled, without any reference at all to the mucous tissues, and without any harm done to the constitution, might be lessened in its virulence or duration by a medicinal, which, exciting the membranes alluded to, should be the occasion of a vicarious impulse.

But skin affections are, after all, very puzzling; and there is no part of medicine, the practice of which, even when successful, is more empirical than that which applies to these ailments.*

Sulphur is almost a specific in itch; both its external and internal use are likewise beneficial in many other eruptions, — its smell being the principal objection to it. The hellebore, and the precipitate ointment, will sometimes do nearly as much good, without the same exposure. For the tetter that breaks out on the back of the hand, and indeed for many other sores of this kind in different parts, I have found the citrin ointment, mixed with the cetaceous, or the turner's cerate, exceedingly efficacious.† And with regard to internal medicines, the sulphuric and other mineral acids; occasionally very small quantities of oxymuriate of mercury, in conjunction with sarsa-

* It is a curious fact, and one in proof, that seeing is not always believing in medicine, that disorders of the surface, which are the most obvious to sight, are the least understood.

† ℞ Ung. Hydrarg. Nitratis,
Cerat. Cetacei, āā ʒss. Ft. Ung.

parilla decoction, simple and compound;* the hydrargyrus cum cretâ, of which I have spoken in another part of the present essay; soda, with rhubarb and soap,† and the compound lime water‡ of the old pharmacopœias, form nearly the whole of my list.

In all cases great attention to cleanliness, to stomach integrity, to keeping the bowels gently acted on, and the mind as free as possible from anxiety and disturbance, are cardinal points. The evidence from which we infer the virtues of most

* ℞ Liquor. Hydrarg. Oxymur. ʒij. Ft. Guttæ; sumat g^{tt}. xxx. ter in die, superbibendo Decoct. Sarsap. comp. ʒiv.

† ℞ Sodæ Subcarb. *exsic.*
Saponis duri, āā ʒj.
Pulv. Rhæi, ʒss.
Aquæ q. s. in pilulas xxxvj. dividend.; sumat iij. noctè manèque.

‡ The compound lime water (aqua calcis comp.) is still, I believe, retained in the Pharmacopœia of Dublin. The following is its composition: quassia wood in shavings, half a pound; liquorice root, an ounce; sassafras bark, half an ounce; coriander seeds, three drachms; lime water, six pints. Dose, three or four fluid ounces two or three times a day.

I have found this medicine exceedingly useful, as well in skin affections as in some of the wasting purulent discharges. It occurred to me, while practising in the country, to employ it in lumbar abscesses, and with great effect. Although the lime water may be decomposed in the mixture, the composition does seem to possess more of virtue than the mere decoction of the woods.

of the mineral waters, is more than half of it *circumstantial.* Leamington is good, Harrowgate is good, the sea-coast is good; but, without the adjuncts of air and scene, and change and amusement, they would all be comparatively useless.*

SECTION VII.

Hitherto our remarks on the subject of skin eruption have been principally meant to apply to those which, in medical language, are called chronic; but the more active or acute, or, as opposed to chronic, less lasting disorders, which implicate the surface, have often an unequivocal dependence upon the condition of the stomach nerves, and membrane.

I have already alluded to the temporary nettle-rash which occasionally follows ventricular irritation; and this, of course, will be relieved soonest by relieving the stomach from its load or irritant;

* Harrowgate water, indeed, as being constituted mainly of sulphuretted hydrogen, may be considered as more nearly possessed of specific virtues in some of the cutaneous disorders than any other. The medicine formerly called liver of sulphur, (the sulphuret of potass,) mixed with water, and drank off immediately, though very nauseous, is often very useful in troublesome itching (prurigo).

and I have seen St. Anthony's fire (erysipelas), which threatened to be virulent and protracted, at once arrested in its course by the administration of an emetic.

On this last affection I may be permitted to add a remark or two in reference to its general demands, which are sometimes difficult satisfactorily to meet, from the circumstance of very high action connecting itself with a great tendency to exhaustion; and in these cases the nicest and most prompt discrimination is required as to the limit of depletion, and the commencing point of stimulation.

It is easy to say on paper, as some authors have done, that erysipelas admits of bark in town, and demands blood-letting in the country; and it certainly is true, in the general way, that the disorder, as to its character and required treatment, is much more dependent upon the internal condition and external circumstance of the patient, than upon the simple consideration of its essence; but the mixture is often so intimate between the low and the high — one particular often calls so loudly for depression, while another demands excitation — that you must forego rules, and throw yourself upon the resources of your own powers, for the selection, or exclusion, or combination, of principles.

In some measure complying with this double indication, ammonia is one of the best weapons

wherewith to combat this, at times, gigantic and formidable malady. I feel persuaded that the virtues of this medicine are not appreciated to their full extent. In all kinds of inflammations that partake of the character of St. Anthony's fire, in measles, in scarlet fever, in the confluent small-pox, as well as in erysipelas itself, ammonia is a remedy manifesting heroic powers. It should seem to act by stimulating, in a peculiar way, the central nerves about the stomach, and then, as from a centre, speedily diffusing itself through the whole frame, and especially comprehending, in its course, the small vessels on the body's surface.

I have heard that a person in the city, who has obtained much reputation for skin disorders, gives ammonia largely in almost all of them, and that he combines it in many cases with the Epsom salts. Upon this intimation, given some time ago by one of the members of the Medical Society, I have since acted, and in spite of the charge it subjects me to, of contra-indication and unchemical prescription, I am now in the daily practice of administering this combination, and with large success.* In some cases it will be necessary only to open the pores of the skin,

* ℞ Ammoniæ Subcarb. ℈ss.
Magnesiæ Sulphat. ʒj.
Mist. Camphoræ, ℥jss. Ft. Haustus.
(For an adult.)

while you are administering ammonia; and in this case the supersaturation of the liquor ammoniæ acetatis will prove an admirable composition.* It were needless, indeed, in this work, rather of general intimation than particular detail, to go minutely into the combinations and variations which circumstances may render necessary; and it may even be considered as in some measure travelling out of my path to engage at all in the present discussion. We shall afterwards, however, have occasion to see, that writers who have confined their disquisitions more closely to *stomach* ailments than I profess to do, have spoken in high terms of the medicine to which I am now alluding. It is, in truth, a valuable medicine; and of this I feel fully assured, that, from its diffusable and particularly stimulating operation, it may not seldom be made successfully to interpose between life and death; especially when the collapse, for which you may administer it, is connected with a disordered state, of such a nature that you are afraid of stimulation on the one hand, and depletion on the other. Its combination with Peruvian bark, when erysipelatous inflammation verges towards the extreme of debility, will often put a stop, in the most

* ℞ Ammoniæ Subcarb. gr. viij.
Liq. Ammon. acet. ℥ss.
Aquæ puræ, ℥jss. Ft. Haustus.

immediate and manifest manner, to the fatal rapidity and malignancy of the disorder.

That connexion between the surface and internal membranes to which we have alluded, (and which it is always of high importance in medical practice to recognise,) more especially manifests itself at times between the portion of mucous membrane which extends itself down into the chest, and is expanded over the surface of the air cells — and this is the case, to a remarkable extent, occasionally in measles. You will find a sudden retrocession of the skin disorder followed immediately by a laboured breathing, which appears referrible to a transference, as it were, of the irritation back upon the internal membrane. In this case, it often becomes a nice point how far you are to treat the newly formed disease as inflammatory, and how far, disregarding the specific character and peculiar circumstances of the complaint, you would set about diminishing action, as under ordinary forms of mucous membrane inflammation.

There is not a doubt that the treatment here must be considerably regulated by the greater or less quantity of vigour apparently present in the constitution ; but I feel persuaded, that, under the circumstances supposed, we are apt too hastily to infer that inflammation, rather than obstruction and debility, are the causes productive of the

laborious breathing: this kind of breathing, I conceive, is greatly occasioned by the respiratory nerves being excited into undue action, and that an emetic and a warm bath, to clear away obstruction, reproduce the action on the surface, and equalise the nervous and vascular excitement, may support and save life, which might be destroyed even by the application of leeches to the chest. Here too, also, ammonia comes in with wonderful effect,— ammonia so managed as not to prove too excitative of heat and irritation.

SECTION VIII.

And there is another disorder, in which the necessity of recognising these dependencies and connexions of the stomach membrane, the membranes of the lungs, and the outer surface, is of vast moment — I mean hooping-cough. It has been made a question, whether this malady be one of the lungs or the stomach: — it is, as I have said before, both, and neither.

The specific contagion producing this disorder, most probably finds its way (as, indeed, it is most probable all specific contagions do) through the medium of the lungs; but the part in which, having made good its lodgment, it shall

particularly fasten and work upon, seems, in a great measure, contingent. It scarcely ever happens, however, that it does not take the stomach in its course; and medicines which prove corrective of some certain kinds of stomach derangement, are generally, almost from first to last, serviceable in keeping under the violence of hooping-cough. There is a composition which is extensively employed in an extra-professional way, and with apparently the most marked good — it is a combination of cochineal with salt of tartar; and, although the dose appears small of the latter, and although we may doubt whether the former have any thing more than a colouring power, — its administration seems, I say, followed by such unequivocally good effects, that we must yield *à priori* objection to positive evidence.*

In more direct medical practice, soda is in greater use than the other alkali, and the combination of this with the hemlock often displays extraordinary virtues. Experience teaches us, that of the narcotics, or anodynes, or sedatives, or antirritants, or by whatever name you choose to call them, some, with apparently equal efficacy in general, will apply with more effect to one kind of irritation than another; and you will find, for the most

* The proportions are, I believe, about thirty grains of the salt of tartar, and a drachm or two of cochineal, to half a pint of water; and the dose given to a very young child, only one or two tea-spoonsful.

part, in accordance with this principle, that hemlock has particular virtue in hooping-cough. We meet with instances, however, in which its general influence fails, and then we have to give foxglove, or henbane, or what is, perhaps, for the most part better than either, a minim or two of the hydrocyanic acid. In all cases where we effect good by the use of these medicinals, we appear to operate by mitigating the morbid sensibility of the *stomach* nerves, and thus keeping at bay the violence of sympathetic disturbance.

It is partly, perhaps, upon the principle of that sympathy, to which we have above alluded, as existing between mucous tissues and the skin, that cutaneous irritants prove frequently so exceedingly serviceable in mitigating the paroxysms of hooping cough. The empirical medicine sold under the name of Roche's embrocation often does wonders. I remember, some little time since, being consulted by a gentleman residing in Soho, who had hooping-cough with excessive violence. I knew him to be a little sceptical with respect to medicine, and a little indisposed to put himself under regular treatment; and, under this feeling, I told him to let his servant get a bottle of Roche's embrocation, and well rub his shoulders, and chest, and neck, with it,—a direction with which he immediately complied; and the effect of it, after even one rubbing, was miraculous to him. He had, for many nights,

been fearful of going to bed, from the apprehension of suffocation; but on the night in which he had used this embrocation, he felt himself almost entirely cured of the disorder. Any other stimulant and anodyne material would probably have been productive of the like effect, unless, indeed, the feeling above alluded to against regular prescription might have interfered with its operation.*

When pulmonary disorder of a permanent kind takes place in hooping-cough, it will be found of the utmost moment to aim at ascertaining its precise situation, and to adapt measures to the necessity of the case, under the recollection, that the specific poison, besides having either directly or indirectly seized upon the chest, has likewise so lamed, as it were, the nervous impulse, that you may not dare to proceed quite so unhesitatingly with your anti-inflammatory measures as in the instance of the same quantity of irritation fastening upon the same part in consequence of cold, or other inflammatory irritant, short of a specific virus.

It is the feeling, I know, of many most able and judicious physicians to consider the chest affection in hooping-cough precisely the same in its nature, and demands, and admissions, as that from common sources: but that this is not the

* Roche's embrocation is said to be formed of olive oil, mixed with half its quantity of the oils of cloves and amber.

case, appears to my conception sufficiently evidenced from the fact, that change of air, and even from a mild bland atmosphere to a keen and irritating one, shall, so far from injuring, effect immediate and manifest good, when the case is hooping-cough; and although, under these circumstances, I should be very far from a wish to intimate, that we may not do much good by leeches both to the chest and the head, according as one or other of these parts shall be especially implicated, I do feel it my duty to say, that, according to my own experience, the hand requires to be a little staid that would pull down so freely and fearlessly in specific as in ordinary irritation.

It has lately been the general opinion, that the mucous membrane of the air cells is the part mainly implicated when hooping-cough attacks the chest; and in the majority of instances this does appear to be the case: but in subjects disposed to inflammation, both the other investments of the lungs, and also their actual substance, are often largely involved in the disordered action. A friend tells me, that he scarcely ever examines the chest of a child who has died of hooping-cough, without finding water in the pericardium. This, I must confess, does hardly accord with my own observation; but you often find the whole interior and actual substance of the lungs marked by the disorder's violence; and

even when the case does not terminate fatally, the hooping-cough irritation seems to me to sow the seeds of disease, which shall, in after life, more decidedly develop itself into a tubercular condition of lung. "If your patient," says Dr. Beddoes quaintly, but with force, "bark but once after measles or hooping-cough, fear lest there be a murderer within, and, though dislodged, expect him again, — he now knows the way."

While, then, I express fears as to the consequences of ultra-boldness in meeting pulmonary ailment, I would, at the same time, say, that the utmost solicitude ought to be called into act, from the first menaces of a serious disorder in the chest, so as, by keeping down *stomach* irritation in the first instance, and thus indirectly preserving from irritation in the lungs; and in the second, obviating this last by measures more directly applied to the chest, the interference of art may prove of most essential service, both as it may be available in snatching the little sufferer from the jaws of death, or preventing the pulmonary organization from running into that condition which shall create a tendency to disastrous and distressing evolution at the most interesting and trying period of life.

Of the convulsions that so often form one of the dreadful items of this dreadful disease, the source and character are pretty nearly the same

as of convulsions from other irritants; only that in this case the successive interruptions to a due transmission of blood through the lungs become an additional cause of its being thrown more upon the head; and thus the vessels of the brain require to be emptied: but here also we must go to work with circumspection, and although we ought never to be undecided, we ought ever to be cautious.

Change of air is almost a specific in hooping-cough, when the violence of the malady begins to abate; and although the regulation of temperature may justly be esteemed important when the lungs, or their investments, or their appendages, have come to be unequivocally engaged, I am disposed to think that a change from floor to floor, or from room to room, may prove highly beneficial in some cases, and under certain restrictions, even while the violence of the cough shall be present; and this I think particularly also the case, when the tendency shall be to convulsive irritation: and always let it be the care of the practitioner to send away the crowds of sympathetic females that shall be surrounding the little patients, and rendering the air of the nursery unfit even for a healthy child to respire in.

SECTION IX.

Croup, inasmuch as it is sometimes excited by a repleted or irritated condition of stomach, calls for a word or two on the present occasion. And I may here, in the first place, embrace the opportunity of saying, that children's complaints demand that the medical attendant be all *ear*, as well as otherwise attentive. It is not necessary that every hoarseness produced in the larynx or windpipe should be immediately set down as of croupal origin, and the alarms of mothers unduly excited; but it is of importance that every thing that may bear the least resemblance to the peculiar sound of croup, should be immediately investigated, and vigorously met, and the probable consequences anticipated; otherwise, by losing a few hours, the medical attendant may find, upon his next visit, that he has lost his reputation for ready discernment, and well nigh, perhaps, lost his patient. I respectfully introduce this caution, from having witnessed many cases, where, from careless observation, and sometimes from a laudable feeling of not wishing over-officiously to magnify and alarm, that formidable disorder croup, with all its terrific accompaniments, has been permitted to seize upon its victim, and now refuses to be unloosed from its strong and dreadful grasp!

The peculiar sound characteristic of croup has been compared to the crowing of a young cock, and other things, to which it does not bear much resemblance. That sound which issues from a child's trumpet bought at a fair, seems to have more analogy with it than any thing else; but it is, in fact, a hoarseness of a very peculiar kind, and unlike any thing beside. It should, however, be recollected, that in this, as in all other maladies, there are degrees and varieties to a very considerable amount.

In the treatment, both the source and measure of the disorder, and also the constitutional character of the patient, should be well taken into account. Very large detractions of blood from leeches, would seem, in some cases of very sudden attack and very robust habit, to be the only plan of cure upon which much reliance can be placed; and who is there that may not have seen croupal inflammation at once arrested by decisive treatment of this kind? But, in the majority of cases, the disorder is permitted to gain some hold before the physician is summoned; and when the inflammation may have continued for some time, and the constitution of the child may not be very hearty, I prefer the treatment of calomel, as more calculated to equalise the circulation, break down the crasis of inflammatory blood,* and less en-

* The membrane which is thrown out on the internal surface of the windpipe, and in part produces the suffocation of croup,

courage the return of the disorder, than continued blood-letting, which last, if carried too far, is sadly destructive of its own purpose; for when the nerves of the pharynx and windpipe are paralyzed, as it were, by too much depletion, another kind of obstructed respiration becomes added to the original one; or, in the language of systematics, spasmodic becomes appended to inflammatory croup.

In this, as well as in all other cases and circumstances that have fallen under our notice, I wish by no means to point out to my professional brethren the precise line of conduct they are to pursue. I am only desirous of representing my own feelings, and recording my own observations; and, in doing so, I must confess that I have myself wished, in some cases of croup, that I had not pushed the blood-letting practice quite to the extent that I had done.

Fas est ab hoste doceri. It is said, that a quack, residing in some one of the inland counties, is so successful in the management of croup,

is a proof that the blood of a croupal subject possesses a great deal of the coagulating principle; and hence, probably, we may, in some measure, explain the great utility of frequently repeated doses of calomel in this complaint — a medicine which, as beautifully explained by Dr. Farre, possesses remarkably the power of breaking down the crasis of the blood. It must be administered, to be effectual, in two-grain doses, every third or fourth hour, till the croupal impulse gives way.

that he is sent for from far and near — that he never on any occasion bleeds; but that his plan of treatment consists of giving doses of tartar emetic, so as to keep up a constant nausea, till such time as the inflammation is so far subdued that there is no reason to apprehend its recurrence.

The word recurrence leads me to remark, that, both in the way of prognosis and treatment, the possibility of the inflammation returning ought always to be anticipated and guarded against.

Sometime since, I was called to a case of croup, which had nearly subsided, under the use of leeches, with calomel and antimony, previously to my arrival; and, before the day was out, the child was so apparently free from every vestige of the complaint, that the grandmamma (who is, for the most part, a dangerous person in the nursery,) gave it a hearty meal of meat for supper, in defiance, as she avowed, of the doctor's orders. In the night, the little patient had another attack, nearly as formidable as the first; the vessels and general system, now weakened by previous disorder and treatment, were not in a condition to bear a second edition so speedily of the same process, and life succumbed under this renewed attack.

Here *gastric* irritation seemed to be the cause of the second attack most manifestly, (it is more than probable that it was of the first,) and death was evidently occasioned by the injudicious meal. So that we see the necessity of attending to the

condition of the digestive organs, not only as a preventive of croup — not only in the course of treating it, but also after its subsidence. It is most probable, that even when this affection happens obviously as the result of varied temperature, that the condition of the first passages, even then, has to do in stamping the locality and augmenting the violence of the complaint.

Spasmodic croup, I have already intimated, seems referrible to some irritation about the origin of the nerves which supply the larynx and windpipe; and hence, when the membrane is not in a state of active inflammation, a gradual correction of the first passages, by antacids, magnesia, ammonia, rhubarb, and dill water, with occasionally small doses of the hydrargyrus cum cretâ, in order to change the condition of the secretory surface, will be the most likely to prove counteractives of a croupal disposition.

CHAPTER II.

Ailments at the Period of Puberty.

We now proceed to the consideration of disordered states which, for the most part, make their visits later than the time of childhood; and as we have just been occupied on the subject of those maladies, incident to the infantile period, that affect especially the respiratory organization and function, we may proceed to a remark or two on the derangements of this function, which especially attach themselves to the time of the first change, as it has been termed, of life; or when the sexual development is about to stamp the future habits of the frame. And here I may reiterate the constant necessity of attention to those contagious and eruptive complaints which affect, for the most part, during the early stages of existence; but which, if neglected or maltreated, are so apt to make their appearance again, with redoubled energy, at the stage of existence to which we are now alluding. It appears to me much more than probable, that many cases of actual consumption of the lungs owe their origin to that irritation which the lungs are the subjects of under the action of the hooping-cough and measles; which complaints, with

neglected colds, and some others, but more especially the two I have named, produce that sort of change in the condition of the pulmonary organs, which renders consumption of the lungs, to say the least, of much more easy advent, in the consumptively disposed, than might otherwise have been the case. "If your patient" (I have already made this quotation from Beddoes) bark but once, fear lest there be a murderer within; and, though dislodged, expect him again, — he now knows the way."

How, under these circumstances of natural and increased predisposition, real consumption may come to be formed by repeated irritation of the *stomach* and first passages, does not seem difficult to understand, after the student shall have made himself acquainted with the anatomy and the habits of the parts concerned in the development of either chest or stomach disorder. We suppose, for instance, a tubercular tendency. We may suppose further, that this tendency has been, to say the least, increased by eruptive and other maladies during the first stage of existence. We may imagine that, with a lymphatic constitution and a weak organization of lungs, that the assimilating or digestive organs may possess a corresponding weakness. If, then, under these circumstances, the diet be not carefully regulated, both as to food and drink — if irritating, undigestible materials compose the one, and highly exciting

fluids the other, the direct or indirect transition of this ventricular derangement to the lungs and their appendages, is not of difficult conception, nor the mode obscure in which it is brought about: but it seems to my mind, I must confess, a singular instance of the force with which loose phraseology, once admitted into medicine, influences the mind, — that discussions should at this moment take place as to the existence, or not, of dyspeptic phthisis.

But while we view these disputations as mere disputations on words, we should, at the same time, be alive to the necessity of great care being taken at the consumptive time of life against the intrusion of the enemy through the medium of the digestive organs; and at this time of life it is more than commonly requisite that irregularities of diet, as well as all other deviations from the right line of physical rectitude, should be sedulously prohibited.

Consumption is, in one sense, a vague term. There are manifold varieties of disordered irritations, which, by destroying the lungs, destroy life. You may have, for example, active membranous inflammation, which, if uninterrupted or unsubdued by vigorous measures in the onset, shall extend from the membranous investments to the absolute substance of the lungs, and destroy their texture by the common course of suppurative inflammation: you may have a more

chronic or insidious inflammation, which shall more slowly, but as surely, operate the same effect: you may, further, have specific or peculiar inflammations, extended or translated from other parts upon the lungs, and producing a sort of specific consumption. The very last examination at which I was present, for example, was of a person who had been the subject of what is called soft cancer for some years, who died some time after the violence of the external malady had in a measure subsided, and whose lungs were broken down, so to say, by the extension to them of the specific disorder. Then, sometimes you meet with instances of what, in medical phraseology, would be called more decided scirrhus, in which, (and I have frequently witnessed this sort of consumption,) from first to last, there has been no spitting of blood or pus, or any thing else, in any great measure,—and yet the disorder that has destroyed has been mainly a disorder of the lungs. Then, again, venereal affection, after floating about in the system, shall come to fasten, as its last locality, upon the lungs. I am at this moment attending a youth, whose life probably will not be prolonged to the printing of the words I am now writing, whose consumption is syphilitic, and therefore, in some degree, specific. But, still further, you have varieties of consumptive disorder, not merely taken from the exciting sources and contingent circumstances, but from the por-

tion of the pulmonary fabric upon which the morbid irritation shall first fall. Thus, the mucous tissue, of which I have before spoken, shall at times, from being in a state of merely catarrhal irritation, in consequence of cold, degenerate into an ulcerated condition, and a purulent wasting disorder be the consequence; or the actual body and substance of the lungs shall be the first part to receive the shock, whether of inflammation or hæmorrhage, and its texture be eventually destroyed in this way.

Now all these conditions, and many others that I have not mentioned, may be materially influenced both in the way of increase and diminution, by the condition of the assimilating organs; and it therefore constitutes a main consideration in their management, to look well to the regularity and integrity of the *stomach* functions; but the kind of disorder to which the word consumption may more restrictively apply, is the tubercular; and the tubercular disorganization, if it may be so expressed, is most likely to be excited by inattention to those affections before referred to, which, indeed, seem themselves to sow the seed of tubercle in the lymphatic constitution; — in the lymphatic constitution, I say, or what some would call the scrofulous diathesis; for the species of consumption to which we are now alluding, appears in about the same measure connected with this sort of constitution at the age of

puberty, as dropsy of the brain is at the period of infancy.

Tubercle, indeed, is by general consent so much confined to the lymphatic temperament, that the morbid structure which it implies has been conceived to be some kind of alteration in the lymphatic glands of the lungs: but there is some difficulty attending this hypothesis, inasmuch as the tubercles are not found in the parts of the lungs where glandular organization is the most conspicuous; but as they are so evidently attached to the lymphatic tendency in the habit, it should seem that in persons of this temperament there is a certain disposition in the blood to deposit upon structure where these bodies are found, the matter of which they are composed.

Amidst all the modern and very laudable endeavours to investigate minutely the habits of morbid structure, as applied to lung affection, I find no single fact more striking than that some time since furnished by Dr. Haighton, who injected running quicksilver into the crural vein of a dog, which occasioned a cough, that went on increasing till the death of the animal: in the lungs were found tubercles, some containing matter; which tubercles had evidently been produced by the mercury, — for, upon cutting into their substance, a particle of the metal was found in each. Dr. Beddoes repeated this experiment with similar results; and he suggests from them,

that tubercles originate from a small particle, in most cases thrown out by secreting vessels during a particular kind or degree of inflammatory action, and that this, by its stimulating quality, maintains the very action by which it was thrown out, in the same manner as the globule of quicksilver does, till the new product of disease is sufficiently advanced to form matter within its substance, and to burst into the air cells of the lungs.

Now, it would appear more than probable, that the kind of irritation which repeated disturbance of the digestive organs implies, occasions in the consumptively disposed such an action in the exhalent vessels of the lungs, as that they shall readily bring out from the blood the material of which the tubercle is formed; that repetition after repetition of this irritative action, at length occasions the tubercle to become itself active, and thus to commence and extend a disorganizing process through the texture of the lungs: but, whatever may be the theory, the fact is established, that repeated disturbances of the stomach affect, both directly and indirectly, the lungs, and that it is especially incumbent on us to caution against these disturbances, when we find by the constitutional character, and the respiratory showings, that absolute consumption only waits, to commence its ravages, the mandates of some exciting cause.

The same precaution is necessary here, as in early life is required to prevent brain irritation; for, as in infancy it is the cerebral system upon which morbid impetus is ready to fall, so now is it the pulmonary organization upon which stomach and other irregularities are more especially likely to direct their workings; and we have all along gone upon the assumption that it is the same kind of constitution which facilitates the induction of water in the brain during childhood, and consumption of the lungs at the time of puberty.

But, when I recommend as a cardinal point attention to diet, under the circumstances of predisposition we are now supposing, let it be understood, that the modern notions of starvation are calculated, according to my belief, to prove destructive of the purpose for which they are instituted. I have actually seen irritation — not merely weakness, but absolute irritation — grow out of those restrictive regulations which are founded on the supposition that while you refrain from food you must do well. "I pursued," says a correspondent of mine, "the twelve ounces a-day scheme, till you might have studied osteology through my skin, and shown me as a counterpart to the *anatomie vivante;* but at the very moment that I was congratulating myself on my perseverance and success, my eyes felt dim, and *blood gushed from my nostrils,* in as large a

measure, and to as great an extent, as had happened to me while I was eating and drinking in the ordinary way." And it is but a little time since that I was summoned to see a patient under this non-drinking and twelve-ounce a-day regimen, who not only was brought to the very door of death by this severe discipline, but who was actually starved into an irritative fever: — so very far from the right point do those theories lead which go upon the supposition that no mischief can be done to the frame, provided you avoid the evil of repletion. Even when inflammation is actually present, and it is found necessary to empty blood-vessels artificially, a diet of a supporting, not of course irritating, kind or quantity, will often be found expedient to preserve the impetus of vessels in that condition, which shall obviate the passive tendency, if I may so express it, to irritation, inflammation, and hæmorrhage. I have already, when remarking upon infantile ailments, referred to that law of the system which originates perturbation from weakness, and which law is certainly not recognised as it ought to be by some modern apostles of the refraining creed. But at the same time, let us be careful against the more dangerous error of excess, and always act under the recollection that extremes of all kinds are likely to be mischievous. The very correspondent, whose words I have just cited, protests against any undue inference which might

be drawn from his representations in favour of much feeding. "Let me," he says, "not do injustice to Mr. Abernethy and his system; my ultra trials, while they have convinced me of the inapplicability of ultra-precepts, have taught me the great good attendant upon moderate forbearance, in a more effective and impressive manner than any rules, short of actual sensation, could have accomplished. I feel that multitudes, even of those who are not conscious of at all injuring their bodily and mental frames, are momentarily so doing by supplying more materials to the blood than the blood demands, or can properly dispense with. The system," he adds, (I quote from recollection, and not verbatim,) "is correct in essence, but false in excess."

The best feeling that should actuate the guardian, whether parental or medical, of youth, is this, that at the period in which the sexual change is about to occur, *every* source of inordinate irritation, be it corporeal or be it mental, ought to be most religiously avoided:—at the same time, prudence, and not prudery, is to regulate our precepts; for susceptible individuals may be frightened as well as starved into a state of irritation; and the period to which we are now adverting is a period of especial susceptibility.

It is necessary, however, to commence anti-consumptive measures early. Much injury is often sustained by neglecting a timely recourse

to preventive means, which are often adopted when the time is gone by. Let the consumptive be cautious against confining himself for a long time together in close, unventilated rooms; let his exercise be regulated with a due regard to his general and pulmonary weakness; let him be defended by warm clothing against the vicissitudes of the climate; let cold bathing not be pursued, under the notion of hardening, against obvious warnings that it is exciting and irritating the circulation too much, or in too irregular a manner. Let us be especially careful at this time, and under these circumstances, not to repel chronic eruptions of the skin, without meeting the repulsion by diet drinks, slight sudorifics, and alteratives, which may throw back again upon the surface, in a different way, the morbid something which our repellents may have given to the blood.* Let the mental and physical excitement of hard and anxious study

* This direction, some of my readers will say, is tinctured too much with *humoral* notions. But whatever may be the obscurity of the rationale, certain it is, that courses of medicines which were contrived upon the principle of purifying the blood, are often highly beneficial. The decoction of the woods, (decoct. sars. comp.) with an *exceedingly small dose* either of mercury or antimony, is a valuable medicine as an alterative. Most of the celebrated syrups and patent medicines are composed in this way.

be suspended or moderated: college exercises, unduly pursued, may do much more harm both to the lungs and to the nerves, than can be made up by college rewards or honours. Let not a bent position of the body for hours together be permitted. I am constantly consulted by individuals whose digestive system in the first instance, and whose heart and lungs are consecutively, injured by those kinds of callings which induce the necessity of keeping the body in a bent position for the principal part of the day. Let the feet and legs be always prevented from feeling uncomfortably cold. I have often thought we should be much better employed in guarding against cold of the extremities than in buttoning and tightening the chest. The hardy Russian, who bares his bosom fearlessly, and without inconvenience, to the northern blasts, would be made sickly and shivering by such clothing about his legs and feet as many of our delicate and consumptive females employ. Let the stomach and bowels be kept in due order, either by such articles of diet as shall insure a regularity of alvine discharge,* or, if not, by the interposition of medicine; for it should ever be recollected, that the powers adverse to health act with more facility upon individuals whose

* Brown bread, honey, figs, French plums, &c. &c.

stomach and bowels have not been properly attended to.*

To individuals generally, the above rules for the maintenance of health will be found to apply,—to the phthisical more especially so; and it of course behoves those more carefully to shun the exciting sources of disease, in whom, upon the lymphatic temperament strongly marked, consumptive menaces make their appearance, at the consumptive age, either in the form of hectic irritation, morning sweats, listlessness of powers, wandering pains in the chest, quick and hard pulse, spitting of blood, hæmorrhage from the lungs, or *defective digestion and assimilation of food.*

Are we to look for any thing, under these circumstances, from change of climate? I think decidedly so, if this change be had recourse to before the process of disorganization shall have actually commenced. Many individuals, I believe, might be saved, and their constitutions radically altered, did the physician early enough sound the alarm, and the patient or his friends sufficiently early listen to the sound. The good that is to be expected from change of place or country, consists, perhaps, in three particulars: you

* It is more than probable, that the circumstances of our late much-lamented Premier previously to the actual attack, were those which determined the fatal malignity of the disorder, rather than the violence of the disorder itself.

wish to ensure a greater regularity of temperature, to cause your patient to inhale an air less stimulating or irritative, and to introduce a new series of sentiments and associations.

In Dr. Johnson's recently published book on Morbid Sensibility of the Digestive Organs, we meet with an interesting account of complete alteration effected upon the frame by, so to say, a thoroughly undertaken journey, commenced and pursued upon the principle of new and pleasing excitement: and although the author had chiefly in view, while narrating and recommending it, the alteration to be effected upon the digestive powers and nervous energies,—such a plan, undertaken and persevered in, for the purpose of changing (partly through the medium of the stomach and nerves) the condition of the lungs, their appendages and investments,—might be to fling the stone against the advancing giant of consumption, and to lay the terrific enemy at our feet, who, but for this prompt and decisive arrest, would have speedily commenced, and quickly executed, his purposes of devastation.*

* When consumptive threatenings display themselves in the form of hæmorrhage from the lungs, or breaking a blood-vessel, as it is vulgarly called, and when this hæmorrhage appears to be the result rather of vascular weakness than organic obstruction,—early removal may prove of most essential service, in preventing the progress from bad to worse, and thoroughly changing the constitutional tendency. A voyage to Madeira,

In dyspeptic disorders, with a consumptive tendency, we may, perhaps, qualify the above account, with respect to the kind of air that is best calculated to meet the demands of the case, —since, as far as the stomach requirements go, the dry and comparatively light air of elevated regions is the most salutary; while, when pulmonary irritation has already commenced, or proceeded to any extent, comparatively low and moist situations will, in the general way, prove the most suitable. Going no further in the illustration of this principle than the vicinity of London, we should say to the dyspeptic, or to the nervous, or even to the pulmonary invalid, when weak stomach and nerves have been the occasion of the lung affection, take your lodgings somewhere in the northern outlets,—go to Highgate, or Hampstead, or Muswell Hill; or, if you prefer the other side of the town, Blackheath: but should the applicant for direction be spitting

in this case, may save life; and the patient would possess the advantage, in residing for a time on this island, of there meeting with medical men of great intelligence and respectability, who, from having been in the same circumstances themselves, and having resorted to Madeira to stop the progress of disorganization, are capable of giving the best advice. I know at least one of this description, Dr. Heineken, whom I saw some six or seven years since, at Bow, deluged almost with pulmonary hæmorrhage, and who, had he continued in Britain six months longer, pursuing the twelve ounce a-day plan, would most probably have been now residing in Bow churchyard.

blood, or pus, or evincing a disordered state, decidedly and organically of the lungs, we ought then to recommend Chelsea, or Lambeth, or the Essex direction from the metropolis; for in these situations the air is more impregnated with moisture, by which its purity and stimulating property is lowered,—and, its otherwise noxious influence being guarded against, it is, in the very measure of its dense impurity, fitter for the breathing of a consumptive invalid.*

As it regards the medicinal treatment of consumption, we may still pursue its analogy with water in the brain; unless preventive means are successful, we shall most probably lose our patient; at least, there is not much to be hoped from medicine, when the whole texture of the lung, from being studded with tubercle, is now become pervaded with ulcer; not that purulent

* Dr. Wells and others have extended this principle, of humid air being good for the consumptive, to the length of proposing marshy situations for their residence; and they have stated, that where the disorders produced by marshes (intermittents) are prevalent, there consumption is comparatively rare.

I am disposed to think, however, that there is a little too much of theory in this conclusion. I remember, when engaged in the inquiry for review, finding some letters in Dr. Southey's work on consumption,—one particularly, from a fellow-student of mine, who is now no more—Dr. Hendy, of Chelmsford; in which it was stated, that the low and marshy parts of Essex are not more exempt from phthisis than the higher and drier districts.

expectoration ought to be in itself considered as the signal of a hopeless state; for in the catarrhal consumption, as it has been named by systematic writers, viz. that which has been produced by cold, or other irritants, fastening themselves upon the mucous lining of the air cells — a good deal of pus may be thrown out by coughing, and the patient, nevertheless, recover. Occasionally, indeed, a healing disposition suddenly manifests itself when the matter expectorated comes, according to the theories of some of the French pathologists, from the adventitious membrane which lines the tubercle, in an open state; and this disposition, when the ulceration has not been very extensive, may effect a cure of the disease; but this takes place with such an infrequency that the occurrence can scarcely stand as an exception to the rule; and drugs, and the south of London, and the west of England, and Madeira, and the islands across the Atlantic, will, for the most part, be tried in vain, when true tubercular consumption has passed into its last stage of purulent expectoration.

The obvious indications of treatment, in the first instance, are those of abating irritation, and equalizing the circulating impetus; and foxglove,*

* ℞ Tinct. Digitalis, ♏x.
Mucilag. Acaciæ, ℥ij.
Pulv. Potassæ Nitrat. ℈ss.
Aquæ puræ, ℥jss. Ft. Haustus.

and hemlock,* and the hydrocyanic acid,† are among the most powerful of medicinal means for effecting this purpose. When the disorder shall have succeeded to stomach irritation, it is scarcely necessary to say, that the first passages must be particularly attended to; and, as in hooping-cough, so in this case, it will often be found expedient to join the alkalies with our more direct anti-irritants. Purgatives of a mild kind must be sought after; occasional small bleedings instituted, but always under the impression of the prevailing weakness. Nitre is often a useful medicine, whether the stomach be or be not affected; the counter-irritant of tartar emetic to the surface, in some instances, especially when the lung disorder is combined with stomach affection, may prove advantageous:‡ the diet should be such as, while it supports, is bland and unirritating. Milk, in all forms, is good; but jellies, which are in so much employ in these cases, are somewhat questionable, since they are not among the most digestible of ma-

* ℞ Extract. Conii,
——— Hyoscyami, āā gr. ij.
Syrup. Papaveris, ʒj.
Aquæ puræ, ℥jss. Ft. Haustus.

† ℞ Acid. Hydrocyanic. ♏ij.
Mist. Amygdalæ, ℥jss. Ft. Haustus.

‡ ℞ Antimon. Tartariz.
Opii præp. pulv. āā gr. v.
Cerat. Cetacei, ʒss. Ft. Ung. applicetur omni nocte scrobic. cordis, fricatione, per sex noctes.

terials, and may, in some cases, rather add to the irritation, than afford, as they are thought to do, light nourishment. This remark more especially applies to the dyspeptic consumption; for we find, in some instances of true tubercular phthisis, the stomach energies, from first to last, are not at all interfered with.*

It may be thought to imply some degree of inconsistency in medical prescription, that while we are looking out for mild, unirritating materials as articles of diet, and even of medicine, in the last stages of consumption, we sometimes order steel and myrrh: but it ought always to be recollected, that the irritation which has been set up, however formidable and extensive, has more or less originated in, or been connected with weakness; so that if we can strengthen, while we are even reducing, we are rather complying with the varying demands of the case than acting inconsistently. Steel, too, is often found particularly useful in cases of young females, where consumption has, as it were, grown out of green sickness, and where a restoration of the uterine action will often go a considerable way towards arresting the disordered action of the lungs. I should be one of the last for proposing the prosecution of strengthening and stimulating processes, through

* This fact, by the way, stands in opposition to those assumptions which maintain the stomachic origin of *all* affections.

thick and thin, in cases of hectic wasting and consumptive malady; but I am disposed to think the sedative and anti-inflammatory principles of the present times rather too much encourage the feeling, that all invigorating medicine is physic that may be thrown to the dogs.

Steel may often, where judiciously used, be instrumental to the prevention of the consumptive state becoming confirmed in cases of chlorotic females, and where, from the lymphatic constitution being strongly marked, and from the general weakness which prevails, the uterine energy is not sufficient to meet its present demands — *pallent et frigent omnia*, as Van Sweeten says, and with this want of power, and wasting, and insufficient development of natural circumstance, disordered workings in the lungs, menace the patient; and even though a measure of actual consumption may have taken place, steel, by invigorating the frame, and determining irritation into its proper channels, will prove a remedy of high value.* The young practitioner, on the other hand, must be careful against its exhibition in all cases of monthly irregularity or menstrual suppression, even though cough, and pain in the chest, and

* ℞ Misturæ Ferri comp.
Aquæ puræ, āā ʒvj. Ft. Haustus.
The London College have done right by introducing this composition into their Pharmacopœia, in spite of the chemical objections that are adduced against it.

spitting of blood, and even hectic wasting, be present: for in some cases of this kind, though the weakness is great, the tendency to form blood is equally great; and it is the property of steel, when it does affect beneficially, to increase the quantity of red blood in the system. Paleness, which may be occasionally lighted up by the hectic flush, calls for steel; while a high hectic colour, of a more constant cast, with a hard wiry pulse, pricking sensations about the chest, and disposition to discharges of blood from the lungs, will scarcely admit of it, even though the uterine system may seem, from its inactivity, to require it.

In both cases it will be found highly important to attend to *stomach* necessities: to seek for those articles of diet, in the one, which are not only of easy digestion, but which are strongly nutritive; in the other, to nourish by materials which do not greatly add to the quantity of blood; and in both to act upon the bowels by purgatives, which, operating mainly upon the lower intestines, are calculated to stimulate and give energy to the condition of the uterine system.*

* ℞ Aloës Soc.
Mastiche,
Pulv. Sabinæ Fol. āā gr. xij.
Aquæ q. s. ft. massa, in pilulas viij. div. sumat iij. vel. jv. horâ somni.

Since I have gone a little further in my remarks on the consumptive tendency than the restriction of my title-page would seem to warrant, it may be expected, before I conclude, that I express my sentiments with respect to the hardening system that has been adopted by some, and with reputed success. One physician, in particular, has urged the propriety, in spite of inflammatory and hæmorrhagic threatenings, of laying the bosoms of our patients bare, and dashing cold water on the surface of the breast, — under the feeling, I suppose, that we, by this practice, impart a contractile tone to the pulmonary vessels, and obviate the irritation, which owns weakness as its source. To me it would appear that this treatment is, in principle, and in the abstract, correct, but that, like all other abstract principles, it will prove dangerous to put it into practice without great care and circumspection; and, at any rate, when had recourse to, its employment should be early instituted; it should be considered rather as a preventive than a cure, and not pushed, with determined force, against the continued opposition of apparent disagreement. I have already intimated, and the practice to which I am now adverting is, in some sort, consistent with the intimation, that we are too apt, in this country, to think that all is done, if we can but keep the cold, as it is expressed, out of the chest. Were we more careful in keeping the

extremities duly and regularly warm, in preserving the stomach and bowels in a proper state, and avoiding exposures to currents or streams of air, — we might, perhaps, not only with impunity, but with advantage, unbare the chest to cold, and thus, in some measure, season ourselves against the vicissitudes of the weather.

I must, however, hasten to the consideration of a malady, which, still more than consumption, is greatly modified and regulated by stomach conditions; but as this is a disorder rather of more advanced life, we shall proceed to treat of it in the division of the work appropriated to maladies in the third stage of existence.

CHAPTER III.

Ailments in more advanced Life.

SECTION I.

It has been made a question among speculatists, whether the disordered condition to which the term asthma should apply, be one of structure or of mere action; and whether it be a derangement of the stomach and first passages, or one primarily and properly of the lungs and their investments. Dr. Bree, I think, took a right view of the subject, when he supposed it to be both pulmonary and sympathetic — both structural and not so; that is, when he announced his opinion, that a series of disordered manifestations, to which the word asthma might legitimately attach, is not only capable of being induced in various ways, but actually exists with varied conditions of parts and organs.

I do not indeed feel quite sure whether this author have had sufficient justice done him by some subsequent speculators on disordered sympathies; or, at any rate, whether it have been duly considered, that he, a very long time since, demonstrated the mode in which stomach may come to simulate organic ailment, and proved

that a malady might be one of the first passages only, when its source and centre had been looked for elsewhere.*

However this may be, (and questions of priority are but of little moment,) certain it is, that an absolutely asthmatic condition may be engendered through the media of the digestive organs; and that the oppressed, the distressingly oppressed respiration by which it is characterised, may, at times, to say the least, be radically and permanently overcome by a determined course of dietetic and medicinal measures, suited to the demands of the case.

Recollecting the anatomical connexion and physiological relationship between the stomach and lungs, let us put the question to ourselves, how is it likely that an asthmatic ailment shall come to establish itself upon the frame by a deranged condition of the parts and organs more immediately subservient to the digestive and assimilating functions?

In the first place, we may call attention to the relations of contiguity, if it may be so expressed, and state, what indeed has already been

* I recollect, some years since, being present at a conversation respecting the merits of the new stomach theories, as they were supposed to be, at that time just coming into vogue; and my old and respected friend, Colonel Nugent, who had then, for the first time, heard of them, said, — "Why, this is just what my relation, Dr. Bree, has inculcated in his book on asthma."

stated in the introductory part of the present treatise,— that mechanical distension of the stomach, by repletion of food, or by flatus, may, by pressing upwards upon the left lobe of the lung, and thereby diminishing its area, very materially interfere with its free play. Then, again, there is the pressure of a full stomach upon the large blood-vessels, which, so far as this cause is capable of operating, may prove an additional interruption to the regularity of the respiratory process, by throwing blood back again upon the heart, which ought to be propelled forwards through the lungs. This interruption of the course of the blood tends likewise to the transmission of an undue quantity through the brain; and in this way the respiratory nerves, at their origin, come to be oppressed or irregularly excited.

And with respect to the more permanent consequences of mechanical impediment, either direct or intermediate, it may easily be conceived how an obstruction of the circulation, and consequent irregularity in the excitement of parts, shall come to induce a morbid enlargement or diminution of such parts, accordingly as the impetus may be accidentally directed: thus the cells of the lungs may be forced into undue contraction, from the habit they have acquired of contracting themselves, in obedience to the spasmodic irritation that shall have been produced. Then, again, the heart may come to be enlarged, from the call that

is made upon it to propel more blood than is consistent with its healthy action: further, the stuffed or gorged vessels shall be compelled to throw out lymph, in order to relieve the congested condition, verging towards inflammatory action; or, instead of lymph, mucus shall be thrown out, if the vessels implicated terminate on the mucous surface of the lungs. This mucus increases the irritation and impediment of breathing, till its accumulation occasions it to be coughed up, inasmuch as it prevents the due vivification of the blood, by interposing itself between that fluid in the lungs and the atmospheric air. These several circumstances and sources of oppressed respiration, moreover, tend, in their reiteration, to engender organic changes, of a nature and extent according with constitutional predisposition; thus we have ossifications of vessels and of the valves of the heart, when the gouty constitution is conspicuous; we have, in other cases, dilatations of the heart or the large blood-vessels; we have thickness and contracted area at other times; and, withal, the nervous power so deteriorated, that action and structure coincide, and act as well as re-act with each other, in such sort, and with such irregularity, as quite to defy all attempts to say what asthma is, and what it is not.

Now, in the asthmatically disposed by nature, the habit of inordinate eating may come to produce a great deal of the mischief, merely as a

consequence of undue distension, and consequently mechanical interruption: but the more usual mode, perhaps, in which asthmatic irritation grows out of stomach disorder, is that of sympathy; and in this case, the humoral asthma, as it has been termed, (to distinguish it from the spasmodic, on the one hand, and the more strictly organic on the other), is the most likely to have place.

Indigestion, in this last case, that is, when it operates sympathetically on the respiratory function, manifests, in an extraordinary manner, that nervous connexion between the organs of assimilation and those of breathing, which has been previously pointed out; and the disordered secretion from the membrane lining the air cells, under these circumstances, is exactly in accordance with some experiments which Dr. Wilson Philip, a little time since, instituted partly for the purpose of shewing the connexion now referred to.

Dr. P. takes two rabbits, in both of which he divides the eighth pair of nerves in the neck, as they pass down to their pulmonary and ventricular associations and destinations. One of the animals thus acted upon, is put by on a table, and, in the course of a very short time, (Dr. P. invited me to see the experiment at the Royal Institution), the breathing becomes hurried, the air cells of the lungs become stuffed up with

mucus, and the creature dies suffocated. Upon opening the stomach of this animal, *the food which had been given it just before the division of the nerves, is found in an unaltered state.*

What becomes of the other animal? The nerves, it will be recollected, have been divided in the same manner as in the first, and at the same time; but in this instance, immediately upon the division, the experimenter contrives so to adjust a galvanic apparatus to the part, that galvanism is made the substitute for the nervous influence; and while the first rabbit is panting and puffing with laboured and oppressed breathing, this is respiring as freely as if nothing had happened: indeed, at the time the other dies, this is found quite free even from any diseased appearance: it is killed, *and the digestive process is found to have proceeded fully to the same extent as in ordinary cases.*

By these very curious experiments, the connexion is clearly established between respiration and digestion; and it is easy to follow up, in idea, the liability that each function must possess of being interfered with by the other, upon the principle of sympathetic influence; nay, in the present case, there is something more than sympathy — there is the actual engagement simultaneously of the same system of nerves in the performance of the two most important functions of the animal economy; and,

therefore, the disturbance of one process cannot fail of bringing with it some measure of derangement in the other.

Nothing need be added to shew the great importance of taking stomach conditions into our estimates when we are considering the pathology and peculiarities of difficult breathing — nothing need be added to convince the asthmatic of the urgent necessity, in his case especially, of attending to the state of the stomach, if he wishes to keep under or cure his disorder: cure, I say, for actual cures have been effected by proceeding upon the principle now inculcated; and Dr. Bree himself conquered, in his own person, an inveterate asthma by a patient perseverance in well doing, as it respected the management of the digestive organs.

We must of course take care, in these cases, to choose our articles of diet from those materials which are found to digest with most facility, and without the production of flatus. We must well masticate our food — we must be cautious not to distend the stomach by large quantities of fluid taken at one time — we must, as poison, avoid those stimulating liquors which excite for a time, produce collapse afterwards, and eventually come to alter structure, as well as to deteriorate function — we must refrain also from ascescent wines — we must not clog and choke the already obstructed vessels, by indulging in the use of the

stronger and more complicated kinds of fermented liquors, such as London porter and ale; — the malt liquor that is taken ought to be under the strength of common ale, and consist of nothing but the malt and the hop; both of which, in moderation, are good, when uncombined with mucilaginous and other materials that frequently enter into the composition of brewer's beer. We must take care, by a regular and moderate exercise, to promote, as much as possible, an equality of circulation, not throwing too much blood upon the lungs and heart by inordinate exertion; and we should be attentive to preserve a due condition of action in the vessels on the surface of the body. Checked perspiration we may not, perhaps, be allowed to say, throws matter, which ought to exhale or be excreted from the skin, back upon the interior; but, at any rate, it especially behoves the asthmatic invalid to be more than commonly wary about the management of the body's surface,—preserving, by friction, and cleanliness, and warm clothing, the skin free in its actions, and sedulously guarding against a sudden check to perspiration. Exercise should not be taken very shortly after a meal. Both cold and warm bathing must be employed with caution, especially if the free actions of the vessels be much impeded by a great quantity of fat in the system. The exercise which we do take should be in the open air, in order that the

respiratory may assist, as much as possible, the digestive function. The mind must be kept in a state of pleasing occupation — hope should be constantly encouraged of permanent relief, in spite of repeated assurance, from feeling, of the contrary; in a word, the great principle of agreeable and regular excitement, in an harmonious manner, of all the faculties and functions of the frame, should ever be aimed at.

Of medicinals for stomach asthma, the two main ones may be set down as soda* and rust of iron.† Rhubarb, too, in small quantities, may be brought to be highly useful, in correcting that disposition in the first passages from which the respiratory derangement proceeds: — bitters are occasionally of considerable service; the combination of these, with a small quantity of tincture of rhubarb, may prove efficacious.‡ The Peruvian bark, and the modern form of it, the sulphate of quinine, will occasionally do good, when

* ℞ Sodæ Subcarb. *exsic.* ℥j.
Pulv. Rhæi, ʒss.
Aquæ, q. s. ft. pilulæ xxiv.; sumat iij. bis terve in die.

† ℞ Ferri Subcarb. ℥j.
Pulv. Rhæi, ʒss.
Aquæ, q. s. ft. massa in pilulas xxiv. divid., sumat iij. bis terve in die.

‡ ℞ Tinct. Rhæi, ℥jss.
Infus. Quassiæ, ℥jss. Ft. Haustus.

the asthma assumes somewhat of an intermittent character; but it will be by no means invariably found to agree with asthmatics. The cascarilla bark is often more unobjectionable, inasmuch as, joined with its strengthening principle, it possesses a power of assisting mucous expectoration. That class of medicinals to which the term expectorant is applied, although it is the fashion of the day to deride them, will occasionally be found to do at least temporary service. With these the fox-glove may be combined, when there is a tendency especially to water in the chest, as a consequence of continued asthma.* Blisters, or antimonial applications to the spine and back, or embrocations, as in hooping-cough, will, at times, act both upon the digestive and respiratory organs in a beneficial manner. Purging and bleeding, in a profuse way, are, for the most part, objectionable; but it is often expedient to have recourse both to the lancet and to cathartics.

During the violence of the paroxysm, a liberal

* ℞ Ammoniac. ʒj.
Pulv. Digitalis, ϑss.
— Scillæ, ϑj.
Ol. Juniperi, ♏x.
Mucilag. Acaciæ, q. s. ft. pilulæ xx.;
sumat ij. ter in die.
℞ Misturæ Ammoniac. ℥ss.
Syrup. Papav. ℥j.
Infus. Cascarillæ, ʒxj. Ft. Haustus.

use of those medicinals which go under the name of antispasmodics may be safely had recourse to. It is a curious law of the system, that when circumstances are such as to require powerful antispasmodic, or, if you please, stimulant operation — the antispasmodic, or exciting, or sedative material, expends itself, as it were, on the part, to quell the inordinate action or spasmodic collapse of which it has been administered, without operating deleteriously upon the whole frame, as it would have done under ordinary conditions. I am acquainted with a physician who, when attacked with gout in the stomach, as it is called, can drink a bottle of brandy in a very short space of time, with no other effect than that of meeting the exigencies of the case. I once saw strong sulphuric æther swallowed, in a case of abdominal spasms, as if it were so much water; and the quantity of tincture of opium that is poured down the throats of men in tropical climates, when they are under the influence of tetanic spasm, is almost incredible.

In like manner, opium is sometimes demanded, and admissible, in the fits of asthma, with a liberality and freedom that would do much harm were the drug not thus directed to, and concentrated upon, the topical disorder: and there is one other medicinal which, in spasmodic asthma especially, will often operate with the best effect — I mean the stramonium, which, both taken into

the stomach and inhaled by the lungs, must be considered as a valuable addition to the list of anti-asthmatic powers, and which may be pushed to a greater extent when administered in the paroxysms of the disorder now under notice, than when exhibited on ordinary occasions of pain or irritation. It has, however, its limits. The usual dose of the extract is half a grain; but I recollect once being consulted, where the fits of asthma were of such uncommon force as to induce me to prescribe grain doses, and with such marked benefit, that the gentleman who was in attendance with me increased the quantity to two grains at a dose. This large dose did, indeed, break in with such force upon the associate action by which the disorder was formed, that from the time of the individual taking it, up, I believe, to the present moment, she has not had a single visitation of the malady in its old form; but she was paralyzed immediately upon the cessation of the pulmonary complaint, and has since been the subject of a maniacal attack; neither of which last derangements would probably have occurred had the fast hold which the asthma had at once taken, been suffered to be retained. These occurrences may serve to inspire a little caution in our grappling with chronic ailments, and enforce the practical recollection of the *expellas furcâ* maxim.

The important experiment of Dr. Philip, to

which I have above referred, leads directly to the inference, that in some kinds of asthma, galvanism, under judicious restrictions, may be productive of radical good. It will be recollected, that the state of the animal's breathing, in which the supply of nervous influence had been cut off, came to resemble that which sticklers for designation would rather call humoral than spasmodic asthma; or which the more modern inflammatory notions would, perhaps, regard as a species of bronchitis. Accordingly, it is in this sort of asthma that Dr. P. and others have been led to try the galvanic stimulus — and with good effect. But it must always be instituted and employed with great circumspection; and of it generally, we may say, that if not applicable and proper, it may be highly improper and mischievous.

Asthma, indeed, is an affection, which, perhaps more than all others, proves the propriety of recognising, both in principle and practice, the complicated nature of disease, and the impossibility of naming complaints, and indicating remedies, in an abstract manner. The observant, judicious, and somewhat sceptical Heberden, presents us, in his Commentaries, with rules and remarks in respect to the circumstances of asthma, which constitute, so to say, a string of antitheses.

" Some asthmatics," he says, " breathe with more difficulty in the country than in town; others, and the greater number, are better for

country air. To most individuals, exposure to a cool air is a relief; but I have known some that instinctively approach the fire when attacked. A change of climate is to some beneficial; others are better for continuing in England. Winter is generally unfavourable to asthmatics; some, however, are better in winter than in summer. Hearty eating for the most part injures, but sometimes does good. The accession of gout, which occasionally lessens the virulence of the disorder, at times either brings it on, or certainly does not relieve it. *Nihil,*" he adds, "*est perpetuum in hoc morbo.*"*

* Water in the chest is known to be a common consequence of continued or frequently recurring asthma; and the effusion by which it is constituted often takes place without any prior condition of vessel which should deserve the title of inflammation. Obstruction and fulness are the conditions upon which have depended the dropsy; and there is both a constitutional and induced weakness in the lymphatic system, which seems to interfere with freedom and facility of re-absorption. Were this the proper place for it, I might introduce strictures on those modern doctrines, which, with a certain measure of propriety, oppose the old theory of dropsy; but which, at least as it appears to me, carry the notion of its inflammatory origin too far. The fact is, that the effusion constituting the disorder now referred to, may be brought about in a variety of ways; — there does not seem to be *one principle* of dropsy, any more than of other affections.

I have referred to this subject in my Compendium of Theo-

SECTION II.

The heart is an organ so intimately associated in all its relationships with the lungs, that the remarks which apply to the one may be almost verbatim transcribed for the other. You have, for example, a distended stomach, lessening the capacity of the lungs; this lessened capacity, interfering with a due transmission of blood through these organs, occasions it to be thrown back upon the heart; distensions and irregular movements are from these sources induced, the ascending aorta receiving more than its wonted quantity, the brain thus becomes too much excited; this cerebral excitation, or irritation, again reacts upon the heart, and increases the malady; want of freedom in the circulation comes to affect the quantity of blood transmitted through the cœliac artery, and consequently to interfere with the condition of the stomach, the liver, &c.; and in this manner the organs, which were originally deranged, have that derangement increased, and through the media of the stomach and respiratory

retical and Practical Medicine, recently published; and I had intended to have discussed it more at large in the present treatise, but I fear too much extension of my limits, and too much wandering from the purpose of these pages.

nerves, the chain and circle of disordered actions is rendered complete.

In structural alterations of the heart, it is at all times desirable to ascertain the precise kind of affection that exists; whether, for instance, the valves of the organ itself, or those at the mouths of the great blood-vessels, be rendered bony, or their free play otherwise interfered with—whether there be any distension, or, more properly, aneurismal enlargement of the cavities of the heart, or at the roots of the arteries—whether its muscular contractions be impeded by depositions of fat or other extraneous matter—whether the sides of the organ are morbidly thickened, or whether absorption has produced an unnatural thinness—whether there be any extraneous growth from the internal membrane of the cavities—whether the whole organ be preternaturally small or large—whether there are adhesions of its substance to its investing membrane, or too much fluid thrown out between this membrane and the heart;—all these, and other circumstances, occasionally occur; and it is, I say, desirable in all respects, that pains be taken to ascertain both the kind and measure of the existing disorder: but, after all, the principal points for useful ascertainment are, in the first instance, whether the affection be structural or functional; and, secondly, how far a disordered condition of the first passages may have had to

do in its induction,—for it is very often the case, that the malady under which the cardiac invalid labours is rather connected with an obscure state of the nervous system, than a symptom of stomach disorder; and that when the assimilating functions are implicated, they are so merely as links in the chain of general disturbance, or as a consequence of that connexion which is maintained between the heart and the stomach, —so that an affection of the former is likely to bring in its train an affection of the latter.

An intimate friend of mine, whose brother had died of organic disease in the heart, for a long time afterwards apprehended, and actually perceived much irregularity in the beats of his own heart; and this condition continued such a length of time, that I began, in spite of my first belief, to fear that organic disorder had actually established itself upon some part of the cardiac system, — a suspicion which I was more particularly disposed to entertain, from the circumstances attendant upon the death of his brother. Now this gentleman, after running from pillar to post, after taking the advice of physician and surgeon, almost without end, and certainly without avail; after taking mercurials, and alteratives, and purgatives, under the notion of liver disease; after having been thoroughly, and well, and perseveringly treated, upon the chylopoietic hypothesis; after having had his nerves stimu-

lated and roused, under the feeling that the whole was *merely* a nervous complaint; after having tried counter-irritants, and vicarious stimulants, with scarcely any effect, was suddenly and spontaneously affected with a bilious diarrhœa: from that moment his disorder was mitigated: he is now in the enjoyment of health and spirits, and has been so for some years.

I allude to this case for a double purpose: I mean to impress the conviction on the hypochondriac, with disordered movements of the heart, that mere sympathetic may counterfeit, to an astonishing extent, positive or structural affection; and I mean, moreover, to say, that we are often wrong in attaching the notion of cause to what takes place in the course of an ailment—to consider a discharge from the body as the *materies morbi*, the something upon which all had depended—and to entertain a vague opinion, that this something constitutes the secret of the whole.

We allow, that in this case the discharge of bile was simultaneous with the improvement in health and spirits; but had the locking up of this bile been the occasion of the complaint, why did not the complaint yield when the liver was under the action of the blue pill and purgatives? No; it is a change in the sentient organization, eluding the sight, and almost the conception, that regulates often these sympa-

thetic and *mimositic* maladies; and which are occasionally referred to a matter retained, while that something, the expulsion of which is consentaneous with the cure, seems to be manufactured as it were in the moment, and is merely the manifestation or effect of the required change which has set all to rights.*

But though this effect is thus often momentary, and the principle of its production is so far evident, that we can trace it up to nervous influence, acting in a particular way upon the secretions, we cannot always succeed in finding the key to this secretory impulse; and after we have inquired and explored, *sine fructu*, for some time, nature or accident presents it to us unexpectedly. It is possible, however, that medicinal trials, even in apparently the most unsatisfactory cases, may have been silently and slowly working their way towards good, although the good may not become manifest until even the cessation of the medicines. I recollect a principal of one of the colleges at Oxford undergoing a long course of therapeutic trial, for an affection of the upper part of the windpipe, and at length giving up physic and physicians in despair; and the moment he did so, he began to improve: the tale, of course,

* The sister of a gentleman whom I am attending, had a like affection terminated by the formation of an abscess upon one of the fingers.

told against the poor doctors, who, however, it is more than probable, although they did not obtain, deserved the credit of the cure.

While contemplating the subject of sympathetic or nervous, in connexion or contrast with organic disorder, our thoughts are naturally directed to the peculiarities of a complaint about which much has been advanced of late years—I mean *angina pectoris*. Now, the discovery of this disorder has been given to a modern physician, just in the same spirit that the detection of a principle, or the finding a new star in the firmament, has been traced to individuals; while the symptoms which, in their aggregate, would justify the predication of the ailment, and the nature and source of the ailment itself, are still *sub judice* questions. Angina pectoris, say some, is constituted of an ossified condition of the coronary arteries of the heart: but I have seen several examinations of individuals who might be considered as having died of the disease in question, and in whom these arterial branches were throughout unchanged in structure; while dissection, on the other hand, has oftentimes shown them in an altered state, where the existence of this specific or peculiar affection had not, during life, been suspected or allowed. So erroneous, I again repeat, does that mode of considering and *naming* disease appear to be, which goes upon the ascription of any abso-

lute essence, or strict combination of circumstance.

One of the most prominent symptoms of these disordered states of the heart, is that, after eating or exercise, especially when the individual is rising a hill, he is seized with a sensation or perception at the left part of the breast, as if life was going to leave him,—which affection almost immediately gives way if the person stop or clap his hand upon a railing or post: if the disorder continue, this symptom comes to be excited with more and more facility, or with less of extraordinary exertion on the part of the sufferer. There is usually, too, a particular sensation in the course of the left arm from the chest.

Now it would appear that, under these circumstances, the nervous impulse which directs the motions of the heart is so affected as to produce this peculiarly distressing feeling; but it may be easily enough conceived, that the condition of the organ, whether structural or functional, which disposes to its accession, may be very different; and so, as I have above intimated, we find the facts of the case,—some persons dying under an unrelieved fit, and shewing a heart free from all change, as far as dissection can develop change; while, in other cases, you would find the heart enlarged, its valves bony, its coronary arteries almost impervious;

and, in fine, the full exhibition of one or another kind of organic alteration.

In respect to the prospect of cure, or the probability of good being effected by treatment, I may say, for the consolation of those who fear that their symptoms are but too manifestly such as denote actual disease in the organ, or that the protraction of the nervous and sympathetic will eventually determine itself in a structural disorder; I can, I say, assure such apprehensive anticipators of evil, that I have seen a great many instances, in which, with care and judicious medico-dietetical treatment, the complaint has been so completely subdued, and at other times (as in the instance above adduced) has taken place so spontaneously, and even unexpectedly, that the most melancholy forebodings, even of those who have had the most apparent cause for fear, have proved unfounded.

On the other hand, it ought to be recollected, that this, the heart, is an organ which, of all organs, is likely to fall from a mere disorder of action or function, into one of structure or actual disease; and that when the patient is, as it were, between the two states, great precaution must be employed, lest the structural derangement take place.

In the process of prevention and cure, it is expedient that the mind and the body be kept as free as possible from all inordinate excitation.

It is well known, that the useful life of John Hunter was terminated by mental disturbance; and, although he had a diseased heart, his life might have been protracted to a much greater length, but for the exposure to the circumstance referred to. The stomach conditions, also, require especial attention; and for food, those articles should be selected which shall neither be liable to create flatulence, nor, by their excitation of diseased sensibility in the stomach, be calculated to bring into action the general tendency to morbid sympathy between the one and the other organ. Indeed, the diet for the asthmatic is, for the most part, the diet for the person who is the subject of inordinate motions in the heart,—with this exception, that the former is more frequently of a fuller habit than the latter, and therefore requires more particular caution, in reference to those articles of food and drink which clog and obstruct, while they conduce to plethora; such, for instance, as strong, rich, mucilaginous beer.

With regard to the immediate medical treatment demanded in violent attacks of heart affection, some difficulty occasionally presents itself; and it is always highly expedient to learn whether the fainting be occasioned by an accumulation of blood in the chambers of the heart, the contractile power of the organ not being sufficient to propel it forward; or whether

the collapse be one of the heart itself, from an insufficient transmission of nervous influence, and consequent loss of contractile energy, without reference to over-distention. In the one case, to bleed, and that largely, is to save your patient; in the other case, the obvious and immediate indication is that of pouring into the stomach, as speedily as possible, a something which shall furnish a temporary substitute for the nervous impulse,—and nothing, under these circumstances, is equal to ammonia. I have seen the composition stated below,* stand between life and death, when the condition has been that of direct collapse, either connected with affections of the heart, or produced by other diseases: in the sinking, for instance, induced by hæmorrhage, it will often keep in the vital principle till the sanative powers of nature have time to rally; and children are often saved by it, (the dose, of course, being adapted to age and circumstances,) whose systems have appeared to be giving way, under the, perhaps, necessary employment of calomel purgatives. These collapses, whether of more gradual induction or more sudden occurrence, are all, probably, instances of the heart energy being about to sink; and I feel myself justified in thus wandering a little from the point of

* ℞ Confect. Aromat. ℈j.
Ammoniæ Subcarb. ℈ss.
Aquæ puræ, ℥jss. Ft. Haustus.

merely cardiac disorder, for the purpose of calling attention to the necessities of cases now supposed, which, I am disposed to think, are scarcely enough appreciated. The intervention, indeed, of stimulus is not seldom necessary, when the general proprieties of practice are those of profuse bleeding and of stimulus: to meet the wants of these cases, I am persuaded nothing is more applicable than the carbonate of ammonia, which, acting as I have before said, upon the *stomach* nerves, speedily and happily diffuses its influence over the whole organization.

I have above said, that whether to bleed or not in a paroxysm of heart disease, is sometimes an important question in practice; its determination, however, must rather be left to the judgment of the practitioner than be settled by abstract precept: whether the patient be generally of a full, plethoric habit—whether he have indulged in good living—whether he have been in the custom of losing blood—whether his time of life be that of high action and vigour—whether any constitutional hæmorrhage, as that of piles, have been suppressed—or whether, on the contrary, the tendencies and circumstances prior to the attack have been those of asthenia—must all be taken into the calculation; but, after bleeding, it is almost constantly expedient to have recourse to stimuli, and ammonia then comes in with especial application; the continued use of which, as in the formula just an-

nounced, I have found very beneficial in heart affections: even laying aside the consideration of the occasional demands of the moment, it exhilarates the spirits, gives a regularity to the nervous impulse, tends to promote the secretions of the skin, equalises the circulation, and, I have often thought, part of its utility in those cases of collapse which are connected especially with stomach disorder, as in what is called gout in the stomach, may be traced to its action as an alkali. I am at this time prescribing for an individual who is well known to the theatrical public, whose heart is affected in consequence of his violent exertions in the exercise of his profession, whose stomach and biliary system sympathise extensively with the cardiac disorder, and who always feels considerable relief from his stomach sensations by having recourse to a mixture of ammonia and sulphate of magnesia, as in the prescription to be found in page 92. The feeling that he has of its *modus operandi* is that of exciting the secretion and promoting the discharge of bile; but antibilious medicines, or purgatives, simply, do not produce the effect.

I should be doing injustice to my subject were I to conclude these intimations on respiratory and cardiac disorder, and their reference to stomach condition, without extracting the following remarks from an author, to whom I have already stated we owe much for the clear repre-

sentation he has given of the respiratory, as at once a distinct and connected system of nervous arrangement.

"The first thing," says Mr. Bell, "that strikes us, is the vital character of the nerves called respiratory; that as they form a system belonging to the heart, lungs, stomach, larynx, throat, and the whole exterior association of muscles of respiration, they must be essential to life, and influenced in all mortal affections; and that, in fact, death cannot take place whilst this division of the nervous system is unchanged or unaffected. On the contrary, the injury to their function is attended with immediate death, and the change takes place with appalling suddenness; not a breath is drawn, not a word uttered, nor a struggle to indicate pain, nor a feature discomposed.

"It must happen, that the derangement of one part of this class of important organs must affect the other. The stomach, for example, as most abused in its office, is daily exhibiting the effect of its close alliance with this system of nerves; and what we learn from this anatomy of the respiratory system is, that the stomach stands in close connexion with the respiratory nerves, and that an irritation on the stomach will have all the effects of an immediate injury upon the lungs.

"If the process of digestion should be deranged by exercise while the stomach is full, and if the food, which should be permitted to move gra-

dually from the one extremity of the stomach to the other, is agitated and churned by the exercise of the body; an anxious and breathless condition of the respiration will be the consequence, and an affection of the lungs naturally apprehended.

"If there be any affection of the respiratory nerves already existing, the paroxysm of suffering will be brought on or aggravated by the state of the stomach. And now let me add, that as custom adapts the body, or its individual parts, to any condition, and the functions are performed in circumstances the most adverse, by habit; so we may, by indulgence, let the functions of the stomach gain such a mastery over the other functions of these nerves, as to pinion a man down to his chair whenever his stomach is in a state of repletion, and the digestion commenced; when, on the contrary, the sailor, the post-boy, like the school-boy, will take his dinner, and be ready for exertion or for play, and the stomach the while will perform its office.

"The stomach, heart, and lungs, are undoubtedly the seat of that affection which is attended with sudden death: when there are no tokens or symptoms in the agitations of the respiratory organs, the source from which danger is to be most apprehended is the stomach; and founding on the fact expressed above, I have to suggest, that it is the duty of the patient to struggle against the increasing influence of the stomach

on the condition of the respiratory organs; that the physician has not merely to regulate the stomach, as the organ of digestion, — but that the patient has to study to preserve his *wind*, or freedom of respiration, against the prevailing influence of the stomach. If a man, being alarmed at the influence which the state of his digestion is producing daily more and more on the condition of his respiration, and the sensation of his chest, if he avoids motion, and permits himself to be checked in his exercise, and to become sedentary in his habits, he is running to meet the disease in its attack: on the contrary, he should eat sparingly, and make continual and regular efforts to exercise himself in that manner which produces oppression, — until, in time, he shall overcome it, and destroy the disposition.

" One of our athletæ out of training is pursy, breathless, and cannot bear the buffets, shocks, and falls, to which he is liable in a bruising bout. But by spare and healthful diet, regular severe exercise, mimic combats, in which his breast, belly, and head, are repeatedly buffeted, he is, at length, capable of standing under shocks that would be fatal to a man of equal strength and better constitution, but otherwise unprepared for what he is to undergo. Whether it be an effort of the body or of the constitutional strength; whether it be an exertion of the head, or hands, or feet, we must come to the full exercise gra-

dually and by slow degrees. Thus I argue the matter with a man whose palpitations are excessive and painful: on every accelerated step he must not altogether avoid the occasion which gives him uneasiness; but by encountering them repeatedly, and by slow degrees, familiarise himself with the exertion."

SECTION III.

On apoplexy, which is our next subject of animadversion, some slender intimations will be found in the first part of the present work. It falls in order to consider this affection immediately after those of the heart; for when an apoplectic seizure is either directly or indirectly occasioned by stomach disorder, the heart constitutes one of the most important and prominent links in the chain of sympathies; and, indeed, some have doubted whether any attack of apoplexy can take place without a primary derangement of the heart. It is our business, however, now to inquire in what way apoplexy is the result of *stomach* affection.

When a seizure shall have immediately succeeded stomach repletion, it is natural to infer, from the structure and connexion of vessels which have before been alluded to, that the pressure of the full organ upon the large descending blood-

vessel, and the consequent interruption to the course of the blood downwards, has been the immediate source of the sentient abolition. Even in this case, however, I believe that a considerable portion of the effect is properly ascribable to a derangement in the nervous energy; the central nerves being unduly irritated, that irritation is conveyed to the fountain-head; circulatory impulse is interfered with; and the altogether of the interruption, in this combined way, produces the disorder.

In other cases, indeed, and where the attack is made during the progress of difficult digestion, and the individual shall be further advanced in life, or of a less sanguine and full habit, the brain disorder may be principally brought about by large draughts, so to speak, of nervous power being called off from the brain, for the purpose of supplying the stomach wants. This is the view that the disciples of Dr. John Brown would take of the case, who contend that apoplexy rather results from want of power than from plenitude of vessel; or that, in their language, it is an *asthenia:* and although I am by no means prepared to follow the doctrine of excitement, without reference to vascular condition, I do think that some authors, in their rationale of apoplexy, have been too much inclined to begin and end with the blood-vessels.

Drunkenness is a temporary apoplexy; but I

imagine that when the stertor which connects itself with drunkenness is attended by an accumulation of blood about the head, that this last effect is rather incidental, or at least consequential, than primary and essential; and that the first cause of abolition of power is purely nervous collapse, subsequent to high excitement. An individual, after taking more than his usual quantity of wine, throws himself upon his pillow, falls soon into a heavy sleep, and snores, though under different circumstances his sleep would have been more gradual in its induction, would be less heavy in its character, and without noise. Snoring, indeed, in other cases, is a mark of depressed or weakened state of nerves: the exhausted, from bodily or mental exertion, will thus sleep, although it be not their constant habit — pressure on the brain is not, therefore, necessarily implied by it. Rouse the individual, make him alter his posture, and the noise immediately ceases for a time; that is, while the temporary excitement, connected with what you have done, continues: but this would not be the case were the snoring and the heaviness merely dependent upon cerebral pressure.*

I have thus thrown out these intimations, with

* I have two sons, one of whom often sleeps with noise, the other very seldom: the first is the least full in his habit, and constitutionally less liable to congestions in the head; but his nervous power is much weaker than the other.

a view of checking that feeling which appears to me to be by far too generally and indiscriminately received and acted upon, that the whole theory of apoplexy is at once explained by the condition of the blood-vessels. A French author has, indeed, maintained, that pressure from blood has nothing to do with causing the sentient abolition; a position which he endeavoured to establish by injecting blood into the heads of animals, without producing the symptoms of apoplexy. These oppositionists, however, to vulgarly received principles, are apt to push their objections too far; and I believe those are the nearest the truth who take a midway stand on these disputed points, and who believe that apoplexy is at one time *nervous*, that is, has been brought about by primary derangement in this part of the organization; that it is at another time *hæmorrhagic*, or immediately induced by a rupture of blood-vessels, and consequent pouring out of blood upon the brain; that it is now *serous*, according to the phraseology of some pathologists, which, perhaps, means, that the exhalent vessels having lost their retaining power, or being pushed into action beyond their endurance, throw out large quantities of serum or lymph from their open extremities; that it is sometimes *inflammatory*, or, in other words, the consequence of a degree of inflammation in the brain vessels; and that it is occasionally a mixture of the whole.

In a word, the medical practitioner should be guided, both as to theory and practice, by his own knowledge and discernment, recollecting anatomical peculiarities and functional susceptibilities, rather than any abstract rules of nomenclatural division; and I have ventured upon these brief strictures, because, as above intimated, it appears to me that, in the general way, apoplexy and palsy are considered to be brain fulness, or brain pressure, without enough of looking before, and after, and around.*

In cases of vehement, or strong apoplexy, as it has been called, with a bounding pulse, a high stertorous breathing, a flushed countenance, — immediate and copious venesection seems, as it were, to be instinctively called for; and I have often seen lives saved by large detractions of blood, which would have otherwise fallen a sacrifice to the malignant rush of the disorder. I should not, in these cases, stay to inquire, whether the affection had come upon us from a repleted stomach, from a fit of passion, or from some internal cause; but order immediate and large depletions, as the only thing likely to

* One author has told us, that when apoplexy is accompanied by decided palsy of one limb or one side, that then we may be sure that there is blood or serum poured out upon the brain; but that when there is an absence of partial palsy, the apoplexy has been that merely of fulness of vessel: and there is some correctness in the position.

meet the urgent demands of the case: but if the patient were very old or very gouty — if the attack had happened during the digestive process, rather than immediately upon taking large quantities of food, or large draughts of wine — if it had been preceded by feelings menacing an attack, those sensations and symptoms at the same time arguing an impaired condition of nerve — if with the abolition of sense, a want of power were manifest over one limb or one side; and if the physician be not called to his patient till some little time after the seizure has taken place, — bleeding even now may be proper to a certain extent, and in a certain measure; but it should be recollected, that the cause of the attack was rather feebleness than fulness, and that the mischief is already done, and cannot therefore be prevented by detractions of blood, however prompt and liberal. We bleed here upon different principles from those which direct us in the first instance; we are desirous of keeping down irritation, and giving an impulse to the absorbing energy, so as to assist in taking up what has been thrown out upon the brain.*

* The utility of blood-letting in promoting absorption, is, I think, not sufficiently appreciated. It appears to me, that even in inflammatory, and congestive, and hæmorrhagic conditions, we sometimes do more good with our lancets, in the way of exciting the absorbents, than by *merely* unlading the system of blood, or diverting its current into other channels. Majendie's

In apoplexy produced by stomach irritations, it is natural to inquire, ought emetics to be given? These I certainly would not, in all cases, absolutely forbid; but the agitation of the frame, which the process of vomiting implies, — the primary collapse, as it were, and subsequent reaction, should make us pause before we set indiscriminately about discharging the contents of the stomach in this way. Would it not be right that the stomach pump were made, in equivocal cases, a substitute for emetic operation? I am led to this query, partly from having seen it employed in a recent case of apoplexy, which I attended with Mr. Headland, of Featherstone Buildings, and in which we both of us conceived the possibility that poison had been swallowed. This did not prove the case; but I verily believe

experiments on absorption, in reference to this particular, may be regarded as of high practical value.

When blood, however, that has been thrown out upon the brain, becomes absorbed and taken up again into the circulation, the process is more circuitous, and is very interesting: the irritation which the extraneous matter produces causes a sort of inflammatory action, the result of which is an organised membrane, or an absorbent surface, which gradually imbibes the effused blood, — and thus are those apoplectic *cysts* formed which are sometimes seen in brains of individuals who have recovered from former attacks of apoplexy, but have at last fallen victims to the disease. Some eminent pathologists have given it as their opinion, that the blood is never absorbed which has once been thrown out upon the brain; but in this they are erroneous.

our patient profited by our surmise, inasmuch as the discharge of the stomach's contents in this way seemed to be beneficial, and most certainly was not injurious. The case has done well.

It is scarcely necessary to say, that persons having recovered from an apoplectic seizure, ought ever after to be careful how they wantonly try their digestive powers; — but even here it is not by starvation and ultra-low living that the recurrence is to be guarded against. I believe, indeed, that these plans often prove destructive of their own design; and that too little nutrition is next door to being as bad as too much. It will be remembered, that under the head of consumption, I adduced an instance of blood gushing from the nose, at the very utmost point of restrictive forbearance: and if hæmorrhage of the brain occur after very low living, or after repeated blood-letting, we are not, at all times, to conclude, that it would not have taken place had we carried our starvation to a greater stretch, or depleted still more.

In watching against the repetition of apoplectic attacks, it is of course necessary to preserve the bowels in a free state; and should there be, as there often is, a tendency to piles, these should rather be encouraged than repressed, or, at any rate, their precipitate arrest ought not to be permitted. The ancients were in the custom of considering the piles as salutary; but they can

only, in truth, be regarded so where they prove vicarious, as it were, of head disorder; and they often are thus vicarious, especially in gouty habits. Under these circumstances, of its being desirable rather than not to keep up or restore the hæmorrhoidal irritation, the compound decoction of aloes, which is nearly a similar preparation with the *beaume de vie* of the French, may be employed occasionally with much advantage.*

In the institution and enforcement of all preventive plans and precepts, the great points should be aimed at of at once inducing sufficient caution, without awakening undue alarm. Nothing is more calculated to bring about brain disorder than a constant impression on the mind that such disorder awaits us; and too much precision in dietetic and medicinal ordinations has a tendency to engender this feeling.

I cannot conclude these remarks on the circumstances of apoplexy, without calling the reader's attention to the illustration which the phenomena of the disease afford of the laws regulating the voluntary and involuntary impulses. In a full attack of apoplexy, the heart and arteries continue to act while sense and motion are suspended, and the function of breathing also goes on, but not, for the most part, with the same readiness and facility as before. When the attack

* ℞ Decoct. Aloës, comp.
Aquæ puræ, āā ℥j. Ft. Haustus.

ends fatally, the order of things is the following: — sensation and motion, or the marks of them, become less and less visible, the heavings of the chest increase, till the respiration becomes laboured in the extreme, and the heart and pulse at length give way. Thus is manifested the kind both of dependence and independence which the respiratory nerves have upon the nerves of sense and motion; and thus is illustrated Wilson Philip's position, that while the mandates of the will are sent directly from the brain to the moving organ, the organic influences which regulate the involuntary movements run round the whole chain of the central nerves before they affect the organs,— the motions of which are, therefore, not so immediately interrupted by brain derangement, but at length, should that derangement continue or increase, partake of the general disturbance: the voluntary, the respiratory, and the central nerves becoming in succession implicated with cerebral disorder.

We have hitherto spoken of palsy as the concomitant or consequence of apoplexy — as a degree, indeed, of the same disorder; but it ought always to be recollected, that the nervous influence may be cut off from a part, and that the part thus deprived shall become paralyzed without any primary affection at all of the brain, and merely as the consequence of some incidental relationship of the part with a disordered con-

dition of the central nerves. When partial palsies of this kind take place, it is evident enough, that a regulation of the stomach energies, procuring a due condition of the secretory organs, such as the liver, the pancreas, and the internal surfaces of the bowels, and an excitation of the bowels to regularity of discharge, together with a careful introduction of medicines which are termed tonics, — will constitute the main particulars of remedial treatment; and in this way, moreover, or upon these principles, must we set about to remedy old-standing cases of palsy, even though the original source of the disorder should have been pressure upon, or some morbid condition of the brain. Electricity, more especially the voltaic electricity, or galvanism — tepid bathing in salt water — the waters of Bath — thorough and long-continued friction — the preservation, as much as may be, of equable warmth — together with a due regulation of the digestive powers and of the discharges from the bowels, — form pretty nearly the whole of what art can do in protracted cases of palsy: and in setting about his trials to remedy these states, the practitioner ought to be careful not so far to stimulate as to excite irritation of the brain; for, in so doing, the object of the exciting courses may be defeated. Galvanism, for instance, unless carefully instituted and duly watched, may prove, as anti-paralytic, worse than nothing. The nux vomica of the French practi-

tioners, sometime since lauded so highly, is particularly obnoxious to this objection, unless administered with much circumspection. This, like other stimulant substances and powers, carried too far, or had recourse to under irritation, increases that irritation, and thus adds to, rather than subtracts from, the force of the malady for which it has been employed. While, then, we do not run into the extreme of inferring the entire impotence of all restorative attempts, let us be seduously on our guard, lest by attempting too much, we rather impede than assist the sanative tendencies of nature, and push down while we are endeavouring to prop up.

SECTION IV.

Allied in some measure to apoplexy, but still differing from it, is that condition of the brain and the nervous system to which the term epilepsy would, by common consent, apply: the one, apoplexy, is marked by suspension of sense and motion; in the other, also, there is often an equal measure of sentient abolition, while the limbs, instead of lying as a dead weight, are agitated by convulsive contortions. We do not as yet know enough of the brain and its connexions to say, with satisfaction, why epilepsy,

and not apoplexy or palsy, should result from a certain cerebral condition; but so far as we do know, we should say that the measure of the morbific cause in the convulsive disorder, if the same in kind, is not alike in degree: it attempts, as it were, to effect the same destruction of the voluntary power as is accomplished in apoplexy or palsy; but failing of complete success, the muscles are thrown into convulsions by an attempt, on the part of volition, to counteract the deleterious influence. We may talk, indeed, of the irregular influx of the nervous fluid in cases of convulsion, and of its total interruption when palsy has place; but we then certainly talk in the language of hypothesis and conjecture,—for we do not, up to this moment, know by virtue of what power, or what combination of powers, the nerves are made to transmit volition to the moving organs. The nervous fluid is not only a gratuitous assumption, but there is a great deal connected with the phenomena of sense and motion, which is quite inconsistent with all we know of fluid, or indeed of any *matter*, however attenuated or subtile.

This we know, however, that epilepsy, in its full measure of malignant force, shall sometimes fasten upon the frame as a mere sympathetic disorder; or, in other words, that convulsions of the most tremendous kind shall demonstrably be the direct consequence of irritation, commencing

in some distant portion of the nervous system, and proceeding thence to the brain. And there is this further to be taken into account, when we are considering the bearings and peculiarities of epilepsy — that at times the malady becomes fully formed without producing much apparent alteration in the state of the circulation, either through the brain or the body; while at others, whether it be a sympathetic or more in seeming an original brain affection, the main feature calling for recognition is the rush of blood upon the cerebral organ, and the general disturbance of the circulating movements.

But, both as to circumstance and treatment, we anticipated a great deal of what we should otherwise have to remark in this place, when we were considering the convulsions incident to the infantile period;* — these may be considered as allied to the epilepsy of more advanced life, only that they are of more easy induction, and of more ready subsidence in children, from the greater mobility that is incident to this than the more advanced period of existence.

In all epileptic attacks, the principal point of interest is, how far we may trace its origin to irritation independent of the brain: we must investigate the condition of the *stomach* nerves; aim at ascertaining the state in which

* Page 66.

the membrane or its nerves is, which lines the whole length of the intestines; see well to the circumstances of the womb in the epilepsy of females, whether pregnancy be or be not existent; learn whether any eruption have been repelled from the surface, or whether there have been a failure in the appearance of a periodical affection of the skin; have our apprehensions especially alive to the probability of one or other species of worms being the cause of the fit; and, in fine, run the whole round of inquisition, *à capite ad calcem*, as to possible causes, independently of original disorder in the head: and again, if there be reason to suppose that the malady has its radix or prime source in the brain itself, whether we may say to ourselves, is there reason to suppose that this something is, so to say, constructive and congenital, and therefore more likely to be permanent? or whether is it accidental or extraneous, and therefore of a more evanescent promise?

But, of course, the nature and limits of the present publication preclude the possibility, and even the propriety, of enlarging upon the several sources of epilepsy, and the mode of management which the different varieties demand; and even of the sympathetic affections, we need not add any thing to what has already been advanced under the head of infantile and worm disease,

and to the intimations which have been given of the necessity, in all cases, of paying especial attention to the integrity of the *stomach*, to the regularity of the bowels, and to the condition, generally, of the several secretions.

It may be right just to intimate, that epilepsy is sometimes cured by a long course of the oxides or sulphate of zinc, the nitrate of silver, and other medicinals of the class, (but the nitrate of silver seems the most powerful,) which have been usually considered tonic. That sort of epilepsy which may have yielded to these medicines has usually been regarded as dependent upon a general mobility of the nervous system, having its origin in weakness, and dependent upon no local source. This may be a correct estimate both of the theory of the disorder and the operation of the remedy; but another view of the subject has lately been taken, from a hint given by Dr. James Johnson, who imagines beneficial operation from these substances to be referrible to the power they may possess of blunting sensibility: and if this be a correct estimate of their principle of operation, we may infer, that even the kind of epilepsy now under notice may be connected with a disordered sensibility of the *gastric* and central nerves, rather than dependent upon general loss of tone in the nervous system. But, until we know a little more of the mode in

which medicine operates than we do at present, we must be contented, as I have before hinted, with empirical observation, assisted by slight analogies.*

SECTION V.

THERE is another affection, which by some has been considered as in a measure analogous to epilepsy; which by others has been thought an irritative condition of brain, extended to the nerves; and by others, again, has been general-

* The nitrate of silver is best given in pills, with crumbs of bread. Its dose may be *gradually* extended from a quarter or half a grain up to four or five. The tendency which this medicine possesses to impart a dark colour to the skin, ought to be watched over when it is administered in large doses, and for a considerable length of time. Whether might the individual be guarded against this occurrence by refraining during the time of taking it from the use of salt? This notion may be wild and incorrect; but it has just suggested itself to me, from the reflection, that common salt is the most powerful agent for decomposing the nitrate, according to the statement of Orfila — coupled with the supposition of its colouring effect being occasioned by the formation of muriate of silver from a decomposition of muriate of soda, "which, in some states of the constitution, may be thrown off by transpiration from the rete mucosum." Mr. Plumbe, who copies this explanation from the Editors of the Medical Repository, remarks, that the darkness of the skin being greater in parts exposed to the action of the light, as in the face and hands, is in harmony with the hypothesis.

ised into a stomach affection, to be cured by starving; —but about which we literally know nothing beyond what mere observation has taught us. I allude to the tic douloureux, which, for the most part, implicates the second branch of the fifth pair of nerves, but which has sometimes other localities. Now, if there be any thing upon which dependence may be placed in the cure of this very painful malady, it is in the administration of very large (drachm) doses of the carbonate of iron, frequently repeated: but when this effects a cure, (and it is the only plan I have ever witnessed at all effective,) who shall say upon what principle it acts? Some influence primarily affecting the central nerves, and in the event extended to the branch of nerve more particularly or obviously the seat of the disorder, may be the principle of the remedial operation; but even allowing this to be the case, the effect is peculiar,—for we know that the most sedulous, and protracted, and judicious attention given to the stomach and bowels, both in the way of abstemious diet and corrective medicine, will leave the disorder untouched: while, without much deviation on the part of the patient from common courses and ordinary modes of living, the iron will often manifest a decided effect.

SECTION VI.

SICK headachs are somewhat obscure as to their precise pathology. They often originate in those predisposed to them from mere general disturbance of the frame, either mental or bodily, without any thing deleterious having been received into the stomach: they acknowledge occasionally an atmospheric source; and even when they are the result of a debauch, the effect is rather attributable to the shock the nervous power has received, than to be traced to the actual disagreement with the stomach of the materials which it has received. It is curious also to observe, that these annoying visits, after having been made for years, shall sometimes gradually, and at other times suddenly, be discontinued, without any variation on the part of the individual of his diet or regimen, while such alteration shall at other times be determinately commenced, and perseveringly persisted in, without avail.

Aperients, however, for the most part, prove of much temporary utility. Every deviation from the line of physical rectitude should be met by the person disposed to a morning headach by stomachic purgatives; and in the general way, without reference to sins committed against the stomach, the fashionable medicine mustard-seed

may occasionally be employed for a continuance with much advantage.

SECTION VII.

STILL more formidable maladies of the nervous class than any upon which we have hitherto commented, will sometimes seem to make their way into the system through the channel of dyspeptic disturbance; and at other times the stomach shall either not at all be affected, or only in an indirect or consecutive manner. Controversies have taken place whether dyspepsia, hypochondriasis, and hysteria, are one and the same, or different diseases; controversies against which the same kind of objection lies as against those to which I have more than once already alluded, viz. that they assume an abstract essence in disorder which does not exist. The fact of the case is this—that in those individuals who are marked by a nervous temperament, irritations and derangements consequent upon digestive disturbances will often prove the exciting source of actually mental disorder; and that in these instances, hypochondriasis, or low spirits, will seem, as it were, to make its way through the medium of the stomach: but, on the other hand, or at other times, the digestive organs may seem to be

performing all their functions with the strictest rectitude; the person shall eat, and drink, and sleep, as if he were in health, while a cloud is gathering round the mind, or the nervous system is undergoing those insidious mutations which, from the very first, shall constitute, perhaps, a degree of insanity, but which, when they have attained a certain height, shall come to constitute a mental malady, about which there shall be no room to doubt; a mental malady, I say, not with any wish to advocate the untenable position that the mind may suffer independently of the body, but merely to express my conviction, that the interior changes of the sentient organization may often proceed to a frightful length without implicating any portion of the visible structure. You may, indeed, upon dissection of a lunatic who has died of his disorder, find in the brain all sorts of changes: the organ may be too hard or too soft in its structure; it may be too full or too empty of blood; the membranes investing it may be preternaturally thick and firm; there may be bony formations about its surface, or bony spicula entering its substance; there may be water, or the matter of abscess; or the organ may be studded with hydatids, or, at least, vesicles; its substance may be in part ossified, or stony concretions found in its cavity: then, again, you may find the chylopoietic viscera changed considerably from their natural appearance; the

villous coat of the stomach may assume a disordered aspect; the liver may be too hard or too soft, too large or too small; stuffed with tubercle, or pervaded by scirrhus; and other parts and portions of the viscera and bowels indicate more or less of lesion: — but then the difficulty is in connecting these changes of structure with changes of function, to say how much has been cause, and how much consequence, of insane manifestation: and another difficulty likewise presents itself, viz. that while change in structure, to an astonishing extent, and even of a like kind, will be manifested when the individual, from first to last, shall not have indicated during life any tokens of derangement; at other times, insanity shall have presented its fulness of dreadful manifestation, and dissection be able to discover very little, if any, of structural change, either stomachic or cerebral.

In the treatment, however, of deranged intellect, we ought always to proceed upon the possibility of doing good by meeting the tendency to organic change; by acting gently and generally upon the secretions in the way of alterative agency; by preserving the discharges from the surface as regular as possible; by obviating, if we may so say, stagnations and congestions, by rousing and regulating the torpid and unequal nervous energy; and in this way contriving that mental shall counteract physical, and physical mental

excitation. When the stomach and digestive circumstances are more obviously in fault, or when, in the language of the schools, the malady is rather hypochondriasis than melancholia, it is more fortunate for both physician and patient, inasmuch as there is something more tangible for practice to be grounded upon, and we may entertain greater hope, that when the digestive powers shall be restored to their wonted integrity, the mental indisposition will then give way.

SECTION VIII.

The liver, perhaps much more than the stomach, is affected both in the way of cause and consequence, under circumstances of mental derangement; and although it is not very easy to predicate the precise condition of this organ, under many cases of lowness of spirits, it is always right to take into account that some morbid change is probably taking place in that organ, and that delusion and despondency are sometimes to be done away with, by properly emulging the biliary viscus, exciting its secretion in a due manner, or directing its flow into proper channels.

If your melancholic is of a yellow colour—if the whites of his eyes, especially, assume this

appearance — if the abdomen is tender to the touch, about the region of the liver—if the urine is high coloured, tinging with a yellow hue linen that may be dipped into it—if there be a disposition to swelling about the ankles — if the temper, formerly mild and amiable, has, with the coming on of the sallow countenance, become sore and irritable,—there will be reason to suppose the liver in fault; and you must set to work in your treatment, not by endeavouring to convince your patient of the error of his perceptions, and notions, and feelings, but by the administration of hydrarg. cum cretâ, or blue pill; by the dandelion, in decoction or extract; by frictions over the surface of the liver, with tartrate of antimony and opium;* by rhubarb and salts, with quassia or other bitter infusion; and by small doses of ammonia and diuretics, according to the degree of existing torpor or hebetude.

It is often but a very vague notion, after all, that we have of the condition of the liver, under circumstances of obviously morbid being, while the fact that it is affected is obvious enough; and it is also sufficiently obvious, that the medicines above mentioned prove deobstruent and emulgent, although how they operate these influences may not be very clearly made out.

Changed conditions of the liver (and it is

* See page 124, note.

important to recollect the fact) have a decided bearing upon nervous states; and when there may be a doubt, under circumstances of either active or slow inflammation, whether the lungs or the liver are the organs mainly concerned in the malady, we may be much assisted in our judgment by the state in which we find the feelings and mental conditions of our patient; for while an insidious disease shall be wearing away the substance of the lungs, without producing any despondency, or even depression of spirits,—a less measure of disorganizing process going on in the liver will bring with it a melancholic expression of countenance, and an irritable and uncomfortable presentiment with respect to the termination of the complaint.

I have said that a yellowish tinge of the countenance may be considered as one of the indices of liver ailment; it ought, however, to be observed, that this same bilious appearance of the eyes and physiognomy may be presented without any actual participation of the liver itself in the existing disease. From an obstructed condition of the duodenum, connected with indigestion, or even without much of stomach derangement, there may be an impediment to the free flow of bile into the intestine, and the consequence of such impediment will be a throwing back of the secreted and transmitted bile again upon the liver; which bile will, in consequence,

find its way into the circulation, either by a reflux into the blood-vessels, or by reabsorption; and thus, in some cases, a bilious yellowness shall be given to the skin, without any other cause than that which is immediately connected with the stomach or duodenal torpor.

In this case the mucous jaundice of some authors (icterus mucosus) is occasioned; a name given under the notion that a collection of viscid mucus about the entrance of the gall ducts, preventing the passage through them of the bile, causes the symptoms.

It is curious to observe how exceedingly influential this state of things is upon the spirits. I have known individuals of the strongest nerves bowed to the ground with mental depression, during the time that this kind of jaundice is engendering; and this effect would seem to show, that the affection of the mind generally, which attends upon liver disorder, is often rather the consequence of bile getting into the habit, which ought to be passing through the bowels, and assisting in the formation of chyle, than from any specific or particular connexion of disorder of the liver with derangement of the nerves.

The cure of this species of jaundice, arising in a considerable measure out of duodenal indigestion, is to be effected by exercise of body, by excitation of mind, by purgatives consisting of calomel and resinous cathartics, and by bitters,

which, giving a tone to the stomach and digestive organs, prevent that reaccumulation of the viscid mucus by which the principal symptoms of the malady have been induced. The dandelion may be employed with effect in this species of jaundice; and, indeed, diuretics generally are of service,—since the urine, as well as the blood, becomes laden with bile; and what excites its secretion and flow carries the extraneous fluid away with it.

The general principle of treating all kinds of jaundice which arise from mere obstruction, and are not occasioned by a positive affection of the liver, is much the same; but when there is not only obstruction, but violent pain produced by the obstruction, as in the instance of large gall-stones passing through the ducts, or spasms about the mouths of the ducts, opium is demanded with great freedom;—so liberally, indeed, may this drug be given in these cases, that it is only with the mitigation or cessation of the pain that its exhibition should be suspended.

We frequently find pains in those persons who are troubled with indigestion, which do not appear exactly referrible to the stomach, and which, though sometimes rather violent, are transient. These cases have been supposed to be connected with the passage of gall-stones through the ducts which are sufficiently large to produce pain in passing, but not of magnitude enough

entirely to plug up the passage. These, it has been suggested, are occasioned at times by undue abstinence from vegetables, under the apprehension of flatulence. Horses (we are told) are subject to inspissated bile and yellowness of the eyes in the winter season, and get well as soon as they feed on the spring grass.*

SECTION IX.

The connexion existing between the blood-vessels and nerves of the spleen and the stomach would lead to the inference, that a disordered state of the latter would soon be likely to bring with it an altered condition of the former viscus; and when pains, and fulness, and obstructions of a somewhat obscure or undecided kind, are perceived about the region of the stomach, or its appendages, we ought always to have our apprehension alive as to the probable condition of the spleen.

The great attention which is given in modern

* Where there is a bilious tendency, amounting almost to jaundice, without the actual production of the disease, the soda and soap pills, a prescription for which will be found in page 89, may be taken for some length of time with advantage. The decoction of dandelion also may, in these cases, be taken as a diet-drink.

medicine to preserve the internal parts, and organs, and secretions, in a free and unobstructed state, is evidenced, perhaps, by the little we now hear, compared with what was the case formerly, of those consequences of intermittent fever called ague cakes, which were principally formed of indolent enlargements of the spleen, and seemingly engendered by the treatment of the disorder with large quantities of Peruvian bark, without due attention given at the same time to the emulgent principle of medicine. In this particular, the disciples of the humoral school, notwithstanding the gratuitous and vague notion of their data and inferences, possessed a practical advantage over the school of solidism, as it has been termed, introduced by Hoffman, advocated by Cullen, and carried to a still greater length of mischievous effect by the Brunonian doctrine of general excitement.

SECTION X.

With the digestive apparatus the kidneys maintain a considerable connexion in the way of sympathy, as is remarkably instanced in the disorder called diabetes, upon which, indeed, much dispute has taken place, whether it be originally an affection of the kidneys or of the

assimilating organs. Diabetes, we know, consists of an inordinate discharge of urine, which, instead of having the proper urinous ammoniacal character, is laden with a large portion of sugar: with this inordinate discharge the patient becomes at the same time emaciated, and at length dies from exhaustion.

That there is a depraved condition of the assimilating power in this complaint is sufficiently evident; but it is not quite so clear how it has originated, either as to time or connexion; whether it has been brought about by a derangement of the kidneys primarily, or whether the affection of the kidneys is the consequence of the affection of the stomach and its more immediate dependencies.

At any rate, one of the main principles upon which its proper treatment should hinge, would be that of altering the condition of the digestive organs, so that the kidneys should not be sufficiently supplied with the pabulum for secreting or separating the matter which constitutes the ailment.

This is one of the maladies which prove the limitation of chemical principles, as applied to remedial institutes; and its early manifestations ought to be carefully watched, so as to be met *in limine* by counteractives; otherwise, when the morbid association is fully established between the stomach and the kidneys, there is very little

to hope from the most ingenious devices and most persevering plans, founded upon the notion of animalizing the frame. I believe, indeed, that these notions are now pretty well abandoned, and that the best correctives of the state are universally acknowledged to be those that at once give energy to the assimilating organs and the kidneys; such as the Cinchona bark, the uva ursi, and opium.*

Abstinence from vegetable diet may, however, in the very early stages of the complaint, together with the assistance of correctives and tonics, prove of some avail in counteracting its tendency to become confirmed; and to this inference we are led from the temporary and partial good that has attended a prohibition of vegetables, even in the protracted or fully formed disorder. "I have ordered," (says the late Dr. Buxton, in a communication with which he favoured me some time since,) "the exclusively meat diet in five instances of confirmed diabetes, and have found a rapid, a decided, and a beneficial effect in all. But I have not known it to cure in one example. All the patients who employed a meat diet soon became fatter and stronger, and made less water materially, and that of a less diabetic quality, than before; and the amendment appeared most

* Dr. Ferrier's composition is a scruple of uva ursi, a scruple of cinchona bark, and half a grain of opium.

conspicuous in the worst cases; but the disorder ultimately proved fatal in all."

SECTION XI.

Calculary complaints are conspicuously connected with stomach conditions. They are mainly constituted by the superabundance of lithic acid in the urinary organs; and this manufacture, as it were, of the free lithic or uric acid by the kidneys, is so manifestly regulated by the state of assimilation or digestion, that some pathologists have generalized the whole circumstances of gravel and stone into digestive organ disturbance.

Even Dr. Wilson Philip concludes an able essay on the subject of gravel in the following words: — "Upon the whole, and reviewing all that has been laid before the reader, I cannot help thinking that gravel generally originates in a precipitation of lithic acid in the kidneys, in consequence of a greater than usual quantity of another acid, generated chiefly in the *primæ viæ*, passing by these organs; and that the best plan of prevention, is to correct the tendency in the primæ viæ to form this acid; to support, by means which invigorate the powers of circulation, the action of the skin, by which, in health, any superabundance of acid is thrown off; and when

we find, notwithstanding such measures, too much acid still passes by the kidneys, to correct it by antacids before it enters the circulating fluids."

With respect, however, both to the constitutional disposition and exciting causes which combine to produce the several species of gravel, we are much in the dark. It is still, indeed, as in the case of diabetes, a disputed point, whether the altered affinities that are brought into play in order to evolve these depositions, commence in the stomach, or are the result of some undefined condition of the urinary organs themselves. Majendie expresses surprise that so philosophical a nation as the English should place the cart before the horse, by exalting the mere incident of stomach affection into the office of cause; and he attempts a more completely chemical account of the matter, by referring the production of stone and gravel to an over proportion of azote in the system, occasioned by a superabundance of animal food. It must be acceded to this hypothesis of Majendie, that the uric acid is more abundantly found, in the general way, in those animals whose food consists of animal matter containing a larger quantity of azote than the vegetable food of other tribes in which the urine displays more of the benzoic acid principle; and it must also be allowed, that in countries where man himself lives merely upon vegetable diet, calculary disorders are exceedingly infrequent:

but, besides that it is by no means proved that the easy generation of gravel is in proportion to the quantity of animal food consumed by the individual, it is of great importance to take into consideration, that the calculus is not in all cases constituted of a superabundance of lithic acid; and, indeed, were this the case, the deposit of it by the kidneys might still be in the way pointed out by Wilson Philip and many other of the English physiologists, viz. by the greater than usual quantity of another acid generated in the primæ viæ.

Whatever be the exact or precise principle upon which gravel is produced, certain it is that it behoves the individual who is subject to it, not only to preserve the *stomach* and bowels in a healthy and regular state, but to be especially on his guard against the generation of acidity in these organs: whatever *turns sour*, be it animal or vegetable food, be it port wine or be it Madeira, must be steadily shunned: and the prone to gravel must likewise act and live and eat under the constant impression of the necessity, in his case especially, of attending to the important rule, to which I shall refer in a future page — to which, indeed, I have already referred in my introductory sections, viz. that to eat after conscious sensation, as Johnson emphatically names it, is called forth, is to do violence to the frame. With respect to his

articles of diet, he must rather be directed by his own sensations than guided by any specific orders; for what will disagree with the stomach, and facilitate gravel, in one person, will be taken with impunity by another, even although the measure of gravelly disposition may be the same in either.

Alkaline medicines* (still correctors, it will be observed, of acidity) are the main articles for gravelly or calculary disorder; but a difficulty has been suggested in respect to their *modus operandi*, on the ground that the mild or aereated alkalies, although demonstrably useful in the disease — nay, some have thought more so even than the pure or caustic — have no operation upon a calculus out of the body: while under the influence of the latter it will become softened, and, at length, dissolved. This difficulty has been met by assuming, that the carbonic acid of the mild alkalies is expelled in the first passages, and that thus the medicine becomes the same

* ℞ Sodæ Subcarb. *exsic.*
Saponis duri, āā ℥j.
Pulv. Rhæi, ʒss.
Ol. Juniperi, ♏xij.
Syrup. simp. q. s. ft. pil. xxxvj.; sumat iij. nocte manèque.

℞ Liquor. Potassæ, ℥ss. Ft. Guttæ; sumat ♏viij. ter in die ex Decoct. Hordei vel Infus. Lini, ℥jv.

℞ Liq. Potassæ Subcarb. ʒss. Ft. Guttæ; sumat ℥ss. ter in die ex aquæ cyatho.

by the time it enters the circulation, or arrives at the kidneys: it must also be taken into account, that the aereated alkalies may be swallowed in much larger bulk than the others; that they are, on this account, more readily disposed to pass off freely by the kidneys, and that they thus tend, in a diuretic way, to wash down and carry off the concretion.

Magnesia has of late been largely used as a substitute for the alkalies;* and it possesses the unquestionable advantage of proving both a corrector of acidity and an aperient; but it should be taken with some caution on this account, that it is apt to lodge in the bowels, if administered for a long time without the intervention of other aperients; and inasmuch as the gravelly disorders for which it is taken may not be constituted of the lithic acid. It is well known, indeed, that while the greater number of calculous deposits are so formed, that very often the composition of the gravel and stone is very different; nay, the ammoniacal and *magnesian* phosphates are not unfrequently the main ingredients of the deposit; and in this case it would appear preposterous to take magnesia into the stomach as a counteractive. In a measure, indeed, the same objection would lie against the supposed efficacy

* ℞ Magnesiæ Subcarb. ℈ij.
Tinct. Humuli, ℥j.
Aquæ puræ, ℥jss. Ft. Haustus, bis die sumendus.

of the alkalies as universal solvents or counteractives, and, in point of fact, it does; but then it must be recollected, that in the case both of magnesia and the alkalies, more strictly so considered, their virtue is mainly referrible to the power they possess of neutralising the stomach's acidity, and to their action as a diuretic in one case and purgative in the other; so that, even when they are less proper and admissible, from the circumstances of the kind of calculus not being such as that upon which they most *directly* and freely act, they may yet, upon other principles, not be altogether so objectionable as the assumption of their immediately chemical agency might lead us to suppose.

It is a fact, however, that where *white* gravel is discharged, proving the presence of the phosphatic rather than the lithic acid tendency of deposit, that the mineral acids may actually be employed, both in the general way, as correctives of the constitutional tendency, and even to subdue the pains of a fit, as it is called, of gravel.

It should seem a cardinal point in all cases of calculous disposition to preserve the surface of the body, as much as may be, of an equable warmth, and to keep the secretions of the skin as free as possible. In the warmer climates, stone and gravel are scarcely known; a part of this immunity, it has already been intimated, may have some connexion with the diet; but probably the circumstance of constant heat, keeping up a

constant action of the surface, is, to say the least, one reason of their marked infrequency in these climates.*

SECTION XII.

Gout and gravel are often connected; and the *stomachic* restrictions that are called for in one are generally necessary in the others.

* A great deal seems to remain for future discovery, in respect to the connexion of the urinary secretion with the general condition of health. At present not much is satisfactorily known on this subject, although we may expect something considerable to result from the labours of Dr. Prout, who has lately given much attention to the chemistry and physiology of the urinary secretion. A great obstacle, however, in the way of much practical progress, is formed from the circumstance alluded to in the introductory portion of the present treatise, viz. that there is something of vital circumstance always standing between the inferences of chemistry and the deductions of pathology. To many of my readers I need not say, that the pretensions of the quacks to judge of disease from the appearances of the urine are gross deceptions: they could not do what they pretend to do, even had they the science and power of analysing the secretion. It is curious that men, for the sake of mere existence, should thus forego what, one should think, is the only thing that can make existence at all desirable, viz. the consciousness of rectitude. There is one thing, however, which we may learn from quacks who pretend to knowledge founded on urinary inspection, that the powerful diuretics which they employ often do good — and without being able to say why they do it, certain it is, that the medicinals are often highly useful which promote a secretion and discharge of urine.

Indeed, the *volumes* of directions which have poured from the press for the regulation of the gouty invalid, may almost be concentrated into the nutshell of stomach and bowel caution. It may seem to partake too much of the humoral pathology, to attribute attacks of gout to the quantity of free uric acid floating about in the system, and fixing upon the great toe as its more usual and favourite locality; and, indeed, we know nothing at all of the how and the wherefore of these local manifestations of constitutional ailments: but if we know their preventives it is something; and, most unequivocally, the great point for a gouty subject to attend to is, a due regulation of the stomach and bowels, and a care taken in the selection of those articles of diet which experience has shown have no obvious tendency to engender acidity. Magnesia, too, and the alkalies, are good in gout as they are in gravel; and it is in both necessary to preserve the surface of the body, by daily frictions and frequent bathing and warm clothing, free in its actions and discharges. Whether cold and repellent applications should be applied to the inflamed surface, must depend much upon the degree of inflammation; but more especially upon the constitutional condition of the sufferer. Where the vigour of the frame is considerable, the habit not broken down by age or repeated attacks, the tendency not very marked to apoplexy (for

apoplexy and gout are also allied in their predisposition), then leeches and cold applications may be used pretty freely; but caution ought always to be observed at the time of their employment, that the stomach and bowels are in a good condition; and the least feeling of internal chill should be listened to as the warning voice which says, Forbear.*

When what is called an attack of gout in the stomach has place, ammonia, the virtues of which I have before lauded, will be found a most excellent medicinal: it seems, indeed, in gout, to be armed with a double power; for while it dissolves, as it were, the spasmodic collapse, and diffuses it through the frame, it corrects acidity by virtue of its alkaline property; and thus proves specifically influential in correcting the gouty habit.

It was formerly the practice to recommend a continued use of bitters and stomach excitants, as calculated to defend the system against a recurrence of gout, and thoroughly correct those dyspeptic inclinations with which the disorder is

* In a little work of Dr. Buchan, the son of the author of Domestic Medicine, I found a recommendation of a camphor poultice to the inflamed surface of gout, when the inflammation may not run very high, or where the constitution is enfeebled by disease; and in some cases I have employed it with marked effect. The camphor must be broken down into powder and mixed with crumbs of bread, which are to be made into a poultice with water.

so proverbially connected. Among the compositions given with this view, the Portland Powder had at one time gained considerable celebrity. This practice has, of late years, been a good deal discontinued, under the feeling, that in obviating the gouty tendency, it encouraged an apoplectic disposition. There may be some correctness in this notion; but, for myself, I should rather object to the adoption of the plan referred to, upon the ground, that any medicine, continued for a great length of time, is calculated to defeat the purpose eventually for which it had been at first advantageously prescribed. Bitters, too, and aromatics, by giving a temporary philip to the digestive powers, might encourage a fuller diet than would be consistent with the circumstances of the frame, under a leaning towards gouty or apoplectic disorders; in both which disorders, or tendencies, full living is highly objectionable; but otherwise, it does not seem very probable that the occurrence of apoplexy, after the subsidence of gout, could have much connexion with the use of the Portland Powder. "Nunc censeo" (says the observant Heberden, who, from the nature of his practice, might be supposed of particular authority in gout), "nunc censeo aura popularis depressit eum haud minùs immeritò, quàm antea extulerat."*

* "*Duke of Portland's Powder for the Gout.*—Equal quantities of the roots of gentian and birthwort (aristolochia rotunda), the

Respecting the meadow saffron, of which it seems the far-famed *Eau Médicinale* is mainly composed, public feeling seems now to be settled into the conviction, that, in its full doses, while it does a great deal of temporary good, it does also a great deal of eventual mischief; that it dissolves the paroxysms that they may more speedily recur; and shatters the constitution while it corrects the malady. In smaller doses, however, and in such as do not affect to grapple with the disease in this *vi et armis* way, the colchicum is an exceedingly safe and beneficial medicine, both in gouty and rheumatic disorder; and we shall afterwards have occasion to intimate, that its use in mere *stomach* affection, may probably, in part, be attributable to the influence it exerts on the frame as an antidote to gouty or rheumatic disposition.*

tops and leaves of germander (chemadrys), ground pine, (chamæpitys,) and lesser centaury (chironea centaurium), powdered and mixed together."

* From twenty to thirty drops of the *Eau Médicinale* will be found a good alterative dose. My friend, Dr. Williams of Colchester, did me the favour, while I was Editor of the Repository, to send me some valuable communications, in which he recommended the *seeds* of the colchicum, as possessed of the virtues of the plant without its deleterious qualities. Founded, I suppose, upon the suggestions of Dr. W., the College have introduced the wine of the seeds of colchicum in the last edition of their Pharmacopæia.

CHAPTER IV.

Brief Intimations on the Exterior Differences between Sympathetic and other Disorders.

The maladies which have been the subject of disquisition in the preceding pages are those, for the most part, of the sympathetic kind, as opposed to actual or structural disorders; and it may not be improper to add a cursory remark or two to those which have already been made respecting the particular features of distinction traceable between affections which are thus rather nervous than organic, or which are disorders of action rather than disorders of structure.

One of the most prominent circumstances of distinction between the one and the other may be taken from the pulse; for, in the fugacious and simulative affection, you will not find the arterial beats of that uniform and steady quickness which is characteristic of topical disturbance influencing the general frame. It is curious, indeed, to observe how the pulse of a nervous patient shall vary with varying circumstances. I have just seen a lady in the Kent Road, about whom there was some little reason for hesitation as to the extent to which the liver might have become

implicated in the general derangement that was pervading the system: I felt her pulse, and found it at my first coming into the room quick and irritable; but as it wanted that peculiar hardness or wiryness of character that marks topical inflammation, I hoped that when the patient should become a little familiarised to the formidable appearance of two medical men standing by her bed-side, the temporary ruffle of the circulation would subside; and the event proved me to be right in my anticipations. I left the person in question with a pulse beating fifteen strokes in a minute less than when I first felt them; and I left her with a feeling, in a great measure founded upon the particular referred to, that although there was some measure of liver disease, it was not so formidable and extensive as I should have inferred it to be had the pulsations continued, from the first to the last, of an uniform celerity.*

It is a curious fact, that when an actual affection of an organ takes place, the individual who is the subject of it often becomes less nervous, as it is called, or timid and apprehensive, than he was before; and the quickness of the

* I have been told, that a physician of celebrity attaches such importance to the first impressions upon patients, that he tells his pupils, while lecturing to them, to take care, when they come into practice, that they check the disposition of their servants to rap thunderingly at the doors.

pulse, which forms one of the characteristics of the new disorder, is not by any means regulated, as it was before, by the feelings and fears of the affected; and in this case there will be none of that momentary hurry and eventual calmness that, in the way just intimated, marks the *mimositic* as opposed to the real disorder. The term, by the way, real disorder, it is hardly proper to employ; for the malady is as actually existent in one case as it is in the other; and that physician knows very little of the laws which regulate the sentient organisation, who shall consider an ailment a matter of fancy, because it has no tangible essence or structural character.

With celerity there is, for the most part, a hardness of pulse when the blood-vessels are more engaged than the nerves, or when the general irritation is an index of some local disturbance of an inflammatory or irritative nature. This change in the pulsations, from a healthy condition, is indeed scarcely recognised by some physicians; and the late Dr. Heberden used to avow his carelessness about pulse beyond the mere number of its beats. "If your patient," says the author just named, "has a pulse which regularly beats more than 100 in a minute, I should infer, that the affection of which he is the subject is somewhat dangerous; but I cannot go along with some individuals, who talk of this and of that *kind*

of pulsation as indicating the kind and measure of disorder." *

Others, again, profess an almost total disregard of number, and confine their observations, and deduce their inferences, from mode almost alone. My own opinion on this head is intermediate; and although I consider the kind of pulsation an important point of recognition, and although I can find topical and inflammatory affection attended with hardness as well as celerity, and the more symptomatic and fugacious disorder without this same wiry character; yet I must confess, that I cannot follow some of my professional brethren in all their apparent nicety of observation. In this respect, however, there is confessedly a good deal of difference as to tact. The late Dr. Gregory, of Edinburgh, used, I recollect, to say in his lecture, that he could seldom detect the fluctuation of dropsy which was so evident to others who might be in attendance with him; and we must, therefore, ascribe the difference of sentiment with regard to pulse, in a great measure, to the varied power of the individual of perceiving the varieties. At the

* How widely different must this opinion be from that of an author, whose book I have just seen, but not read, and who writes two volumes on the pulse alone! At least, the work to which I allude is in two volumes, and it is entitled "On the Pulse"

same time, some may probably affect to have, or cheat themselves into the supposition of having, more delicacy of perception than is positively the case,—just as some would profess to feel, or fancy they felt, more pleasure in musical sounds than they actually do, merely because the want of the pleasure might be thought to imply a general deficiency of sentiment or taste.

The state of the spirits is another circumstance which will materially assist the decision when assistance is wanted to judge between functional and organic disturbance. Those who have much fear about them have, for the most part, less cause for fear; and when individuals tell you that they feel a presentiment that they shall die of disease in the lungs or the heart, you may generally conclude that their gastronimic system of nerves requires more correction than the condition of the organ about which their apprehensions are so much upon the alert. I have already, indeed, intimated, that, with the coming on of organic malady, a firmness and fearlessness of mind very frequently accompanies it. The late Dr. Reid, in his essays on nervous affections, tells of "a lady who had, for a long time, been a miserable victim to the vapours, but who was completely cured of this complaint by the supervening of another which was more immediately alarming, and which precluded, indeed, the possibilty of much longer life. No sooner," continues the narrator,

" was the new disease ascertained to be an aneurism of the aorta, and the necessary result of that complaint was explained to her, than all her nervous feelings vanished, and she even bore the announcement of her inevitable fate with calmness. Hypochondriasis," he adds, " may often thank calamity for its cure."

The countenance, in general, of a person labouring under organic disorder, is very different from one whose complaint is merely simulative or sympathetic; and the difference, like that of the pulse and the spirits, principally consists of the greater permanency and steadiness, as it were, of alteration from the physiognomy of health in the one case than in the other. There is, in the subject of organic disease, a continued sharpness and fixedness of feature which is very observable, and which the merely nervous patient is without; and when the stomach, but more especially the liver, happens to be the residence of the organic disorder, this fixed cast of countenance is accompanied by a peculiar anxiety of expression, or rather perhaps, I should say, of despondent indication. The term anxiety should rather apply to the physiognomy of a person with merely sympathetic malady; but then it is changed with the changing feelings that pass through his mind. I think it likely enough that an observant spectator would have perceived a marked change in the marked countenance of the late ruler of

France, from the time that the general perturbation of which he was the subject resolved itself into a fixed point, and he became the subject of a topical and organic complaint.

It should be remarked, that when dyspeptic conditions are the occasion of the disorder, the precise nature of which we are desirous to learn, there is often a muddiness or dirtyness, as it were, of the skin, owing to the secretions of the surface being in sympathetic connexion with what is going on in the interior. Dr. Saunders, I think, in his treatise on liver complaints, speaks of this condition of the surface as peculiar to the dyspeptic or hypochondriac, who feels as if his skin constantly required washing; but this is a very different condition of the surface from that which is the indication of organic malady, accompanied by the sharpness and fixedness of feature just alluded to.

Emaciation, for the most part, accompanies organic malady, more especially if the organ affected be connected at all with the assimilating process; but, even in pulmonary affection, you find the patient sensibly losing his flesh and strength, while he himself is less sensible of the change than the hypochondriac sufferer, who feels himself rapidly wearing away, and is surprised that the change is not so observable to by-standers as he should suppose it would be.

When perspirations accompany fixed and

organic disorder, they are more regular in their recurrence; they assume more of the hectic shape; they break out in the morning, and are, for the most part, rather confined to the upper part of the body; they are of a colliquative cast, as it is called; that is, they seem as if the frame were melting away under them, while the perspirations of the sympathetic complainant, although profuse often, are not so steady with respect to time, not so certain as to the part of the body upon which they break out, nor of so melting or dissolving a character. This distinction, indeed, more strictly applies to pulmonary affection; but it may be extended, with some qualification, to many others.

The pains of organic and sympathetic disease are remarkably different; and the difference relates partly to the locality of the affection, and partly to the state of nervous susceptibility of the patient. When the substance of an organ is implicated, and is wearing away under the malign influence of structural malady, the individual shall, at times, be scarcely conscious of pain at all, while the pain produced by nervous susceptibility, being called into actual consciousness, will prove, though perhaps transient, while it does last, comparatively severe.

The shivers, or rather rigors, which accompany disease, are very different in their aspect and character, as they shall be the indices of

nervous or inflammatory affection. In the former case they will be fugacious and uncertain; in the latter fixed and regular.

Flatulent feelings and expulsions of wind are remarkably characteristic of nervous or sympathetic disorder; of the inflammatory or organic they are much less so. We may not, perhaps, subscribe to the medical axiom, *ubi flatus nulla inflammatio;* but, for the most part, where there is much of flatus, there is little of formidable disease.

When the seat of the disorder may be such as that you can make pressure on it with your hand, you will often find merely spasmodic or nervous ailment mitigated by the pressure; while if inflammation be going on, however slow and insidious, the patient's countenance, though he may not wish to acknowledge it, indicates that you occasion pain by the pressure. This is especially observable when our investigations are directed to the existence or not of liver affection; for here we press upon substance uninterfered with by bony parietes. In the case of chest affection, we must be guided by general distinctions, occasionally assisted by the ear, the ear itself being assisted by the stethoscopical instrument lately invented by our ingenious neighbours, the French, and brought into considerable use in this country. Although a little over forty, I hope I am still young enough to listen to any sug-

gestions by which a promise is made of forwarding the progress of medical science; and I do not feel inclined to deny, that the naked ear may be thus occasionally assisted by this artificial method of concentrating and conveying sound: but after all, the ear is of much less use to us in medical investigation than the eye and the touch; and I am inclined to think, that some of the boasted stethoscopical discoveries are like the salt on the bird's tail, — not made, till you have pretty well made them out by other means.

In a word, the sympathetic, or nervous, or mimositic patient, is always ready with his complaints: he will tell you of feelings about his eyes, of ringing in his ears, of pain in all parts of the head; and from the head he will traverse, with his bewailings, the whole topography of his body down, literally *ad calcem;* he will call his physician back, after having detained him some half hour or longer, to add to his catalogue of miserable items, or to "ask what he shall eat, or what he shall drink, or wherewithal he shall be clothed:" while, on the contrary, you are often obliged to force from the other individual what you do get in the way of information, and he is quite as glad as is the medical attendant when the time of the visit is over.*

* "During his (Dr. Baillie's) latter years, when he had retired from all but consulting practice, and had ample time to attend to each individual case, he was very deliberate, tolerant, and

The above, which I have chalked out, are mere outlines or skeletons, to be filled up by the observation of the practitioner, as daily experience shall afford him opportunity.

I have, indeed, all along in the present work rather wished to indicate ways than to accompany as a guide; and I have done so not only in consistency with the limited design of my undertaking, but from the feeling that medicine, after all, is rather more of a practical art than a positive science; that each individual must acquire it for himself; and that books of written directions are, like manuals of colloquial directions in a foreign country, in a great measure sealed from their possessor. The waiter at a tavern, or the peasant boy on the road, smiles at the book practitioner in colloquy; and the lad behind an apothecary's counter would soon perceive the bungling of the *mere* literatus in

willing to listen to whatever was said to him by the patient. But when, in the hurry of great business — when his day's work, as he used to say, amounted to seventeen hours — he was sometimes rather irritable, and betrayed a want of temper in hearing the tiresome details of an unimportant story. After listening, with torture, to the prosing account of a lady who ailed so little that she was going to the opera that evening, he had happily escaped from the room, — when he was urgently requested to step up stairs again: it was to ask him, whether, on her return from the opera, she might eat some oysters? 'Yes, ma'am,' said Baillie, 'shells and all.'" — *Gold-Headed Cane.*

medical lore, who would be found lamentably deficient in those niceties of *idiom*, which nothing short of actual experience can put into the possession of any one, be he whom he may, licentiate or collegiate, apothecary or physician.

PART THE THIRD.

DIGESTION AND INDIGESTION TREATED OF IN THE ABSTRACT, AND POPULARLY.

CHAPTER I.

Physiology of the Digestive Function, including the Considerations of Diet and Regimen.

AGAINST treating these topics in an "abstract and popular" manner, some objections *in limine* present themselves. It may be stated, that the information which treatises on digestion and indigestion promise to afford, is not in reality conveyed; for, in the first place, there is such an irregularity with respect to the human constitution, that no rules can be laid down for the guidance of any individual,—what is meat to one being poison to another; and, moreover, that instinct and feeling, controlled and regulated by the most common observation, are fully equal to all the demands of the case, both of a positive and negative kind; that a man at forty, if he is not his own physician must be a fool, or if he stands in need, at this time of life, of any printed directory on "the comparative merit of fish, flesh, and fowl."

The *ad captandum* design, on the part of medical advisers, has been made another objection against treatises of the kind which I am now going to epitomise; and it has been urged, that authors have been thinking much more of their own good than of the public weal, while affecting to instruct mankind on what mankind is already sufficiently instructed: for "what," it is reiterated, "is the sum and substance of information which these treatises convey? Do they not commence and terminate by manifesting what was sufficiently manifest before, viz. that sins against the stomach are sins against the whole frame; and that if you go to undue lengths, either in the quantity or quality of your food, you will be visited by more or less of immediate suffering, and encounter considerable risk of radical and lasting mischief."

In the face, however, of these and other objections, I shall proceed with my present undertaking; for, in the first place, as I have indeed elsewhere intimated, the physiology of the digestive process, and the pathology of its affections, to say the least, are of general interest to the inquisitive mind, without even any reference to medicine or dietetic investigation. Then, again, in respect of the ethical or directing part of the investigation and comment; who shall deny that the physico-moral of the thing, however commonplace in itself, and sufficiently obvious to common observation, may be impressed on the mind, with force and effect, by the representing powers of

the dietetic preacher? If you strip Mr. Abernethy's precepts from the mode in which they are conveyed, would you not rob them of half their force and effect? And yet who shall question that many have gone from his house with a determination, upon which they have acted, "to sin no more?" For myself, I am free to confess, that since I perused the tract of my friend, Dr. Johnson, in which will be found a forcible representation of the impropriety of proceeding in meals a step beyond the point of satiety, I have been more inclined to obey the dictates of nature in reference to this particular than I previously was, although I had before, of course, the same knowledge in respect to the sin against good *taste* which the deviation referred to implies.

But there is still another principle upon which disquisitions of the kind, in which we are now to engage, may be justified. The mixture of error and of mischief with the truth, and the good of some modern rules, and precepts, and restrictions, with respect to eating and drinking, demands, in my judgment, to be freely canvassed and forcibly exposed. I have already alluded to the injurious consequences of following out, into ultra lengths, some fashionable doctrines on the subject of diet; and however unpopular the opposition may render me, however much my motives may be suspected, in freely objecting to what is sufficiently freely advanced, I shall fearlessly set down what I unbiassedly feel, and leave the reader to judge

for himself. Two, indeed, of our most popular and able writers on the subject of diet, have, in this particular, set me the example; and I know not how better to terminate these preliminary hints, than by introducing into my pages the following sensible strictures of Dr. Paris: —

"Some persons," says Dr. P. "have deemed it necessary to direct that the quantity of food appropriated to each meal should be accurately estimated by the balance. Mr. Abernethy says, that it would be well if the public would follow the advice of Mr. Addison, given in the Spectator, of reading the writings of L. Cornaro, who, having naturally a weak constitution, which he seemed to have ruined by intemperance, so that he was expected to die at the age of thirty-five, did at that period adopt a strict regimen, allowing himself only *twelve ounces* of food daily. When I see the habits of Cornaro so incessantly introduced as an example for imitation, and as the standard of dietetic perfection, I am really inclined to ask, with Feyjoo, Did God create Lewis Cornaro to be a rule for all mankind in what they were to eat and drink? Nothing can be more absurd than to establish a rule of weight and measure upon such occasions. Individuals differ so widely in their capacities for food, that to attempt the construction of a universal standard, is little less absurd than the practice of the philosophical tailors of Laputa, who wrought by mathematical calculations, and entertained a supreme contempt

for those humble and illiterate fashioners who went to work by measuring the person of their customer; but Gulliver tells us, that the worst clothes he ever wore were constructed on mathematical principles. How then, it may be asked, shall we be able to direct the proportion of food it may be proper to take? I shall answer this question in the words of Dr. Philip, whose opinion so exactly coincides with my own experience, that it would be difficult to discover a more appropriate manner of expressing it. 'The dyspeptic should carefully attend to *the first feeling of satiety*. There is a moment when the relish given by the appetite ceases; a single mouthful taken after this, oppresses a weak stomach. If he eats slowly, and carefully attends to this feeling, he will never overload the stomach.' But that such an indication may not deceive him, let him remember to *eat slowly*. This is an important condition; for when we eat too fast, we introduce a greater quantity of food into the stomach than the gastric juice can at once combine with; the consequence of which is, that hunger may continue for some time after the stomach has received more than would be sufficient, under other circumstances, to induce satiety. The advantage of such a rule over every artificial method by weight and measure, must be obvious; for it will equally apply to every person, under whatever condition or circumstances he may be placed. If he be of sedentary habits, the feeling

of satiety will be sooner induced; and if a concurrence of circumstances should have invigorated his digestive powers, he will find no difficulty in apportioning the increase of his food, so as to meet the exigencies of the occasion."

Than this twelve-ounce text of Mr. Abernethy, with the more liberal comments of Drs. Paris and Philip, we need, then, scarcely advance another step as to the absolute *utile* of dietetic commands; but, upon the principles just alluded to, I proceed to a brief discussion of the following questions — a proper reply to which would comprehend, in detail, the whole rationale of the digestive process, and the mode of living most conducive to preserve an integrity in the digestive organs.

What is digestion? What are the particular circumstances of the frame which impel to the reception of nourishment? in other words, what is the cause of hunger and thirst? In what manner, and to what extent, should these sensations be gratified, or their commands obeyed? What is the proper kind and quantity of food for an inhabitant of the British islands, under ordinary circumstances? Is it proper that liquid aliment should be extended further than the mere quenching of thirst, or should it, otherwise, constitute an article of diet? Whether is it right that drink should constitute part of the dinner meal? What kind of drink is the most salutary, or the least noxious? Of what does indigestion consist? What is the best mode of preventing its occur-

rence? And lastly, how should it be remedied when it has occurred?

These queries, as I have above intimated, comprise the whole of what the public is at this moment so much interested in gaining satisfactory information about; and a treatise which professes to comprehend matter in any way connected with the digestive process, is almost compelled, by the terms of its title, to fall into the beaten track.

In the first part of the work will be found a reply, to a certain extent, to the first question above advanced,—and to what is there said, I, of course, refer the readers;* but we quitted the subject in that place without investigating either the nature of the gastric secretion, or the substance which is formed in the stomach by its action upon the aliment.

There is, in truth, much difficulty connected with endeavours to ascertain either the quantity or the quality of the secretion which is poured out from the secretory surface of the stomach, and which goes by the name of the gastric juice; for it is next to impossible to procure it entirely unmixed with other secretions which are poured out from the same surface at the same time; and then, again, it is supposed, and with much plausibility, that "it varies in different stomachs, or even in the same stomach, at different times."

* Part I. p. 11, et seq.

Majendie imagines that the application of different substances to the surface which secretes it constantly modifies its nature; "and it is at least certain," says Dr. Paris, "that the gastric juice varies in different animals; for example, that of man is incapable of acting on bones, while that of the dog digests those substances perfectly." One of the most remarkable properties of this secretion is its power of coagulating milk, which it effects, as is well known, even when taken out of the body, and when thus, in some measure, deprived of its vital agency. It is said, also, by Dr. Fordyce and others, to possess a remarkable power of correcting putrefaction; but the experiments of an ingenious physiologist of the present day have thrown some doubts on the extent of this principle.* That it is highly solvent, the well-known experiments of Spallanzani and Stevens fully demonstrate; and Dr. Paris is scarcely correct in the unqualified way with which he speaks of the insolubility of bone in the gastric secretion from the human subject. It is a fact worthy of observation, from its practical bearing, to which we shall almost immediately refer, that the efficient principle of the gastric secretion is not diffusible in water, even though the solvent power of the water be aided by an alkaline admixture. Dr. Young, of Edinburgh, is quoted by Paris, as having found that an infusion

* Thackrah.

of the inner coat of the stomach, which had been previously washed with water, and afterwards with a dilute solution of carbonate of potass, still retained the power of coagulating milk very readily. It is a curious fact, in illustration of the peculiarly penetrating or solvent power of the gastric juice, that it will sometimes destroy even parts of the stomach itself immediately after death — of that stomach which had just before, or during life, secreted it. "In persons who die in full health this is by no means infrequent. A robust man is killed by a blow. The gastric juice, freely secreted up to the moment of death, continues to act, though its source of supply be destroyed. It seizes, of course, the nearest dead animal matter; and thus the stomach, now devoid of life, is dissolved by the very fluid which before it secreted." This fact ought to be well considered and appreciated in investigations respecting the cause of sudden deaths; for the corrosions produced in the way now referred to, have been supposed the effects of an extraneous and poisonous substance.

Thus we find, that in the great business of converting aliment into what is called chyme, two principles at least are in constant operation, viz. that of a solvent and that of a coagulating power; but even the solvent energy is of a *sui generis* character; and analogies that have been assumed in the digestive process, with others

which take place among the operations of inorganic matter, have all failed, as indeed it is natural to suppose they would, when the same laws are presumed applicable to dead as to living existence. "Some physiologists" (the late John Hunter used to say, while addressing his pupils) "will have it that the stomach is a mill," (alluding to the triturating theory of the process); "others, that it is a fermenting vat," (referring to the doctrine of fermentation); "others, that it is a stew-pan," (hinting at the doctrine of calorific solution): "but in my view of the matter, gentlemen, it is neither a mill, a fermenting vat, nor a stew-pan — but a *stomach*, gentlemen — a *stomach*."

The aliment thus prepared by the action of the gastric secretion from the stomach, and by the previous action, as I before pointed out, of the salivary glands, is named, with no very great propriety, *chyme;* for, as Mr. Hare justly remarks, chyme, like its etymology χυμος, means, strictly speaking, juice of any kind; and alimentary pulp is something more than juice. But the principal point of interest, in reference to this substance, is, whether is it always the same, whatever may have been the aliment out of which it has been manufactured? Majendie and others have proved that it is not, but that there are as many species of chyme as there are food; and even this difference continues to exist in a very considerable measure after the duodenal action, and the biliary

and pancreatic secretion have together operated the further change, so as to have converted the chyme into chyle; for, according to the experiments of the ablest physiologists, this last fluid differs in composition according to the nature of the ingesta from which it has been formed. When the individual, for instance, has been chiefly sustained by sugar, the chyle is without that mixture of fibrine which is found when the food has been composed principally of animal matter; and when much oil or fat has entered into the constituents of the aliment, the chyle differs both in appearance and odour from that under common circumstances,—it is more acrimonious or alkalescent.

Chyle has a great resemblance to blood; it separates, like that fluid, into three distinct parts, into serum, coagulum, and globules; like that fluid, too, as just stated, its relative composition has reference to the kind of food taken into the stomach, and, I may add, to the state of health and strength of the individual: indeed, it seems to differ very little from actual blood, excepting in colour,—the globules being colourless, while those of blood are red.

Respecting the mode in which it gets into the blood-vessels, I must refer to what has been previously advanced on the subject of assimilation,—and connecting what has there been stated with what I have now remarked, the reader will find,

in brief, the whole of the digestive and assimilating process traced, from the reception of the food by the mouth, to the reception of the chyle by the blood. Thus have I endeavoured shortly to reply to the first of the above questions, viz. What is digestion?

The rationale of hunger and thirst, constituting the second of the above inquiries, is not, perhaps, very satisfactorily made out. That the desire for food is a nervous sensation, is sufficiently obvious; indeed, sensation without nerve is totally out of the question; but the difficulty is, to determine what occasions this sensation to be called forth. The doctrines which explained digestion on the principles of trituration, assumed that hunger was caused by a sort of attrition of the sides of the stomach on themselves, having not received material to work upon; and even in the present day, hunger is referred, by one of our ablest physiologists, to a corroding action of the gastric juice upon the internal surface of the stomach. That this, however, to say the least, does not explain the whole of the sensation, is proved by the influence which an altered condition, both of the nervous impulse and mechanical condition of the stomach itself, has in modifying the sensation; for not only will a sudden mental impression moderate, and even altogether suspend, an appetite which before was urgent,—but the pain of hunger will at times be

much mitigated by the application of a tight girdle drawn round the waist, and making pressure upon the stomach: so that the perception would seem to have some reference to the muscular condition of the organ, and to be, in some measure, an instance or illustration of that kind of pain that is produced by the "difficulty and labour with which an enfeebled organ performs its accustomed and salutary exercise;" and the proximate source of which does not appear to admit of any further exposition, than that of the fibres of the muscles contracting in an improper direction, and making pressure upon the nervous threads which are interwoven with, and almost constitute a part of muscular structure.

The sensation of thirst, with respect to its essence and proximate principles, is also very obscure; for although deficiency of moisture about the throat and fauces (the parts in which the perception appears to reside) might seem in a measure explanatory of the condition, we know that the desire for liquids, which constitutes thirst, is often present when there does not exist any particular dryness of the parts in question; and, on the contrary, this dryness is often manifest to a very considerable degree, without any corresponding manifestation of the feeling of thirst. Relief also from thirst not unfrequently follows recourse to measures which do not bring with them any additional supply of moisture

to the mouth and throat, as in the instance of its alleviation by wetting the external surface of the body,— a practice common with sailors in long voyages, when fresh water fails them.* And it may be further stated, as an argument in favour of thirst not being exactly dependent upon deficient moisture, that when the sensation is present, under certain conditions of the system, a glass of brandy will relieve it more speedily and more effectually than copious draughts of less stimulating fluids. As in the instance, then, of hunger, so in respect of thirst, we must refer it to a particular condition of the nervous organization, affecting, in the latter case, the secreting power residing about the fauces and throat.

We now proceed to consider the question of the extent to which we are justified in going towards satisfying the craving demands of the two sensations to which we have above referred. May we eat, that is to say, when we are hungry, and drink when we are dry? No, say some of our systematic dieteticians,—twelve ounces a-day is the limit, beyond which if you pass, you abridge, in the long-run, your present well-being, and lessen the duration of life and health. The robust and hearty individual, who knows nothing

* They take their shirts off, dip them in the sea, and put them on again without drying.

of indigestion, or who is a stranger to the feelings which satiety produces, may, if he so please, live and eat without regard to weight and measure; may even indulge in drink during the time that he is calling largely upon the digestive powers of his stomach: but let the weakly and the dyspeptic be careful how he exceed his twelve ounces in the twenty-four hours; and let him abstain from drinking even water at the time of meals, lest he dilute and weaken the gastric secretion, and call upon the stomach to do more than the organ is able to accomplish.

In objection to the second clause of the above dietetic mandate, we may refer to what has just been advanced on the nature of the gastric secretion, and remind the reader, that so far from water weakening its powers, in the way of dilution, it is not even diffusible through water: and in respect to the rule which prohibits and admits precisely the same to all valetudinarians, we may only refer (as, indeed, I have done by an extract from Dr. Paris) to the vast variety, even among the weakly, of constitutional power, to show its want of foundation in truth and nature. No—it is by sensation, and not by scales, that we must be regulated in these points; and, in the general way, we need be under no apprehension of deviating from rectitude, either in respect of quantity or quality, if we attend to the law of satiety above laid down by Dr. Philip; and listen to the

admonition of Dr. Johnson, not to call forth any "*conscious sensation*" in the stomach, whether of a pleasurable or painful kind.

Men are fond of system; and they are fond of becoming disciples of preposterous creeds; or else, how can we account for the rigidity with which dietetic precepts are often adopted, in direct defiance of common sense and common feeling; and in despite of loud warnings to the experimenters, that they are wasting their flesh and strength in the service of a hard master, who will receive their oblations, and mock them for their pains.

I was, but a few days since, present at a painful recital. A poor dyspeptic, sinking from inanition, begged of his wife, in despite of the rigid severity of his doctor's orders, to let him have but a small draught of his own home-brewed beer: the poor woman, distracted between her fears of the consequences and her desires to indulge, appealed to the medical attendants. "It will be death to him," was the reply:—and the poor patient and his affectionate partner were obliged to submit to the hard decree. But my story is not over. At the time of assurance of safety, upon condition of abstemiousness, the patient suddenly became more than commonly sinking; his altered appearance and manner were observed by his vigilant nurse: she sent in frightful haste to the nearest medical adviser; stimu-

lants were administered — but it was now too late, and the patient sunk — I was going to say a victim to system! — but I will not so say, for I may be mistaken; there may have been some misconception or misrepresentation in the account; and I know nothing of the parties, either medical or otherwise, beyond the narrator: but I will say, that much, and serious, and irreparable injury may and has been done to the frame, by the pursuance of whimsical principles, in opposition to nature's dictates; and by acting under the feeling that, while starvation is the plan adopted, safety is absolutely ensured.

Whoever may have done me the favour to read the preceding parts of the present treatise, will, at the same time, have done me the justice to infer that my apprehensions on the head of undue repletion are still greater than those respecting undue abstinence:* but it is curious to observe how, in this, as in almost every particular, extremes are found to meet.

It is not, however, as regards quantity merely, but also in respect of quality, that much of wild speculation and unnatural inference has gained considerable footing. Physical and medical, and even moral objections, have been urged against the practice of making any part of the animal creation subservient to the sustenance of man.

* Pages 72, 105, &c. &c.

"I am mortal myself," says a modern Pythagorean; "and holding my life on the same uncertain and precarious tenure as all other sensitive beings, I do not feel myself justified, by any supposed superiority or inequality of condition, in destroying the vital enjoyments of any other mortal, except in defence of my own life." And one of the ablest writers and most acute reasoners among the medical men of the present day, sees arsenic lurking in every morsel of meat, and traces up all our chronic maladies to animal food, and to taking water into our stomach before it has passed through the purifying process of distillation.

Thus, in both these instances, we find a direct violation of the principles and dictates of nature, in obedience to the orders of an untenable hypothesis: but even these individuals have their disciples; even these preposterous systems are upheld by specious reasoning, and, as I have just said, are advocated by able pens.

All nature proclaims against the prohibition of animal, and the exclusive use of vegetable diet. Man is exhibited, both by natural history and by comparative anatomy, as an *omnivorous* animal. The former "exhibits him subsisting in one region on vegetables, in another on flesh, in a third on a mixture of flesh and vegetables;" and the latter evidently shows his destiny for accommodation to circumstances. "In animals

which eat vegetables (says the ingenious author from whom I have just quoted*), we find a large digestive apparatus, or a complicated arrangement; in those which subsist on flesh, a comparatively simple canal. The reason is obvious. The use of digestion is the formation of an animal fluid; and substances already animal need little elaboration; while vegetables, in proportion to their distance from the animal kingdom, require a complicated apparatus, a period of digestion comparatively long, and a large extent of absorbent surface. In omnivorous creatures the digestive structure is in the medium between those of the carnivorous and the herbivorous, or a compound of the two.

"The digestive apparatus of the man and the monkey are alike in figure and arrangement. But when the teeth, the stomach, and the intestines of either of these animals are compared with the predatory pole-cat, or the ox, and the rabbit, we see a remarkable difference; and *infer the man and the monkey to hold an intermediate place between the wild beast and the eater of herbs.*"

And climate most plainly points out the preference which, in any one part of the globe, should be given to one species of food over the other, the proportions in which the two should be mixed, and the propriety in some, of the

* Thackrah.

almost exclusive use of either. Both Dr. Lambe and Sir Richard Philips would find their vegetable doctrines of difficult application in the frozen regions of Lapland; and to tell the inhabitants of the tropical climates that they must forego their vegetables and their fruit, and eat of fish and flesh, as do the Norwegians and the Samoides, would be to inculcate a dogma, in either case, quite as absurd as that which would teach to the British plowman that he must reduce his daily consumption of food to the *Cornaroean quantum* of twelve ounces per day, if he values the continuance of life, or cares any thing about the good estate of his digestive organs.

Then, as to the modern condemnation of drink with meals; we should find this matter, if duly sifted, like all other extravagant principles, to combine a good deal of what is very sensible and salutary, with much of the reverse. There is not a doubt, that the habit of large potations with our principal meal is highly objectionable; for even a temporary distension of the stomach is calculated to do harm, by lessening the contractile energy of its fibres; and much of fluid, by intermixing readily with the solid mass, is likely to interfere with the immediate influence of the gastric secretion upon the nutritious portion of the aliment. But, beyond this, objections against drinking at the time we are eating have no foundation in truth; excepting, indeed, we

may add, that if the potation be of a stimulant nature, it excites to more eating than is good for the stomach: but the idea of liquid ingesta diluting the gastric juice, and thereby lessening the facility of the digestive process, is an erroneous one; and I have already made a quotation from Dr. Paris, which goes to the refutation of the principle.

In this, as in every thing else, moderation is the command both of philosophy and good sense; and even instinct laughs to scorn the refinements and restrictions of a fanciful theory. "The valetudinarian who, without the feeling of thirst, drinks during a meal, because he has heard that it assists digestion, — and he who abstains from liquids, in opposition to this feeling, in consequence of the clamour which the partisans of a popular lecturer have raised against the custom, will equally err, and contribute to the increase of the evil they so anxiously seek to obviate."

Then, again, in respect to the question of fermented and spirituous liquors; — who shall deny that their copious use has proved a large occasion both of physical and moral evil? But because things are misused, it does not follow that their use is to be foregone; and it, perhaps, would be difficult to prove that man, as he is at present constituted, could do altogether without the products of fermentation.

Whether the introduction of China tea, as an

article of diet, may have proved deleterious or otherwise, is also a disputed point. On this head I shall take the liberty of quoting from myself, and introduce an extract from the paper to which reference will be found in the preface: indeed, in the whole of the present section of my work, I find it difficult to avoid an actual transcript of both sentiments and expressions which, having been so recently employed, are so ready to recur.

"It has been said, that a physician, celebrated for his treatment of the insane, used to express it as his opinion, that he owed half his practice to China tea; and many regard the habit of drinking it as highly injurious to the nervous system;* while others, on the contrary, maintain its salubrity, arguing, that it tends to lessen the consumption of more solid, but less salutary, ingesta, checks the disposition to wine drinking in undue quantities, and is exhilarating, without being exhausting. Our opinion on this head is intermediate; we verily believe that the dreadful cohort of constitutional derangements, which, being below the grade of nosological disorders, pass under the general denomination of nervous ail-

* There are two opinions abroad on the subject of insanity, neither of which appears to be founded in fact. The one is, that the disorder is especially prevalent in this country: the other, that it has, within the few past years, been much on the increase. See *Dr. Burrows' work on Mental Derangement.*

ments, has been increased by the custom of tea drinking; and that our frames generally are more hardy, the less we habituate them to any species of excitation that does not nourish as well as stimulate. Among the poor of the metropolis, we are sorry to see the custom so generally prevail, of taking tea at almost all times of the day; since the temporary stimulus that it gives, is followed by that sort of relaxation of nerve, and depression of spirit, which induces the consumer of it to resort to a still more reprehensible and baneful custom, viz. that of taking ardent and raw spirits; a practice, respecting the mischief of which there can be no room to doubt. We deprecate, likewise, the custom of introducing young persons to the tea table. The later in life the habit becomes established, the better. Tea drinking to children and youths is, both positively and negatively, injurious."

From the whole of what I have advanced, it will be inferred that I consider an inhabitant of Britain, in tolerable health, may feel himself at liberty to use the common meats and drinks of society in moderation; accommodating his habits, not certainly to his sensual desires and carnal pleasures, but to what experience tells him is suitable to his constitutional susceptibilities; that he may, if he please, read books about diet and digestive organs for his amusement,—nay, for his intellectual gratification, if such be his taste

and the construction of his mind; but that he will find the great rule of sensation and satiety, to which I have repeatedly referred, of much more practical importance than page after page of comparative estimates of roast and boiled, fish and flesh, water and beer, ale and porter, sherry and Madeira. And even the weak and valetudinary — nay, perhaps, this applies more to him — must take his own stomach and his own feelings for his guide, rather than submit himself to be directed either by the more restrictive or the more liberal caterer for his wants. Whether it be twelve or six times twelve ounces, it is too much if it oppresses or renders uncomfortable; and too little, if there be, not a capricious and irregular, but a constant and steady craving for more, and a conviction of the mind, exclusive of the gratification of the moment, that more would refresh and invigorate.

We are now to give attention to the circumstances immediately connected with indigestion, to its preventives, and to its treatment.

CHAPTER II.

Of Indigestion, its Circumstances, Causes, and Preventives.

If food which is taken into the stomach be not duly converted into chyme, it is easy enough to follow out in idea the consequences, — the immediate consequences, — that must result. We should expect a sense of uneasiness under the circumstance of such an important organ as the stomach not performing its function correctly; and we should say, that such uneasiness might have a combined or complicated source. The mass of food, not properly influenced by the gastric secretion, would become subject, in some measure, to the changes which a pulpy mixture of this kind would undergo when exposed to the same temperature out of the body; it would ferment, and, becoming in part gaseous, would swell, and thus distending the organ, increase the uneasy sensation connected otherwise with the present state of things; for, the very want of proper secretion, or the secretion being of a depraved kind, would, in the first instance, arise out of a disordered state of the stomach nerves; which disorder would itself bring uneasiness,

without any primary reference to the stomach's contents. A feeling of distension, then, after eating; the attendant and consequent eructation or discharge of wind; the temporary alleviation of uneasy sensation produced by such discharge; and the uneasiness itself, — are all sufficiently obvious results from the aliment not immediately, and with ease, undergoing the changes which it is destined by nature to do.

But the pain of indigestion may have other sources than those of nervous disorder and stomach distension. The gastric fluid, when not properly produced, is often changed, not merely in quantity, but in quality; there is an unnatural acrimony connected with its secretion, and this depraved condition of the fluid not only occasions a deficiency in the power of acting duly upon the ingesta, but it also influences by its acrimony the stomach itself: then, again, the changes in the aliment operate, in a measure, the same effect; for, in place of a bland, and homogeneous, and unirritating chyme, the changes supposed occasion the formation of an irritating, heterogeneous mass, which, as well as the morbid secretion from the stomach, corrodes as it were the nervous structure of the organ.

Thus, then, there does not seem much room for difference of opinion with respect to the direct or immediate effects of indigestion; or much difficulty in tracing the source of the distensions,

uneasiness, flatulent, or acid, or acrimonious eructations, clammy and furred tongue, impaired and irregular appetite, and other symptoms by which indigestion is characterised. This state of things is said, by Dr. Wilson Philip, to constitute the *first stage* of indigestion.

But should indigestion not give way, or not be subdued, the uneasy sensation of which we speak shall come at length to amount to positive pain, or at least a permanent tenderness on pressure externally shall be felt; and with this tenderness, the pulse, according to the allegation of the writer just mentioned, becomes decidedly *hard* and wiry. Now, then, we have Dr. P.'s *second stage* of indigestion; and from this commencing, the plan of treatment requires, according to him, to be changed.

Then the *third* division of the dyspeptic state is into that of structural change and consecutive disease; and the importance of recognising these three transitions and mutations is largely insisted on by our ingenious pathologist.

Other writers, however, contend, and, according to my conception, rightly contend, that nature disclaims these arbitrary divisions and definite stages; and that the principles of treatment would rather be cramped and injured, than rendered more precise and *ad rem*, by attempting their detection. "Every practitioner of any experience," says Dr. Paris, "must well know,

that the hard pulse and tenderness of the epigastrium are likely to occur in a temporary attack of indigestion; and I have frequently," he adds, "witnessed extensive mischief, with change of structure, without the occurrence of such indications."

And Dr. Johnson likewise states, that he is satisfied, from what he has personally experienced and seen in others, that all the phenomena of what is called the second stage of indigestion, including tenderness in the epigastrium and sharpness of pulse, may and do very generally depend on irritation; or, in other words, on functional disorder of the stomach and bowels.

I have already, in the course of these pages, repeatedly expressed my dissent from the attempts at division which systematics aim at: in conformity with this feeling, I fully assent to the propriety of Dr. Paris's and Dr. Johnson's strictures on the systematic precision of Dr. Philip; and it appears to me, that beside the objection to the division into stages, on the score of its being *unnaturally* regular, Dr. P. admits too readily the assumption of pain in the epigastrium being an evidence of inflammation. Dr. Johnson's opposition to this notion may, perhaps, be carried up to a caricature magnitude; and the mode in which he puts it partake a little too much of dogmatic severity against a highly respectable contemporary; but I feel convinced that he is, in

the main, correct in his strictures, and right in his positions: yet while I express this opinion, it is scarcely necessary to say, that I do so with the most respectful sentiments towards the able author with whom, in this particular, I disagree. I am well aware of the *con amore* feeling with which a point in pathology is often maintained; and I am fully persuaded that Dr. Philip is thoroughly convinced of the propriety and importance of what he advances,—that it is all done in good faith and sincerity,—though it may wear somewhat of an *ad captandum* assumption of nicer discernment and superior tact to others.

We are not, it may be remarked, accurately told respecting the absolute locality of this assumed inflammation; whether it is in the inner membrane of the stomach; whether it is among the muscular fibres of the organ; whether it is in its exterior investment; or only, after all, in adjacent and contiguous parts: and it is of importance to notice, that, unless in the instance of specific disorder, as that of scirrhus, the internal coat of the stomach is much less susceptible of actual inflammation than almost any other part of like susceptibilities. Look over a large museum of morbid preparations, and you find fewer examples of stomach inflammation than of any thing else; and my medical readers will recollect seeing a very important paper of Dr. Yellowly on this particular, in which he proves that inflam-

mation of the villous coat of the stomach has occasionally been conceived after the reception into it even of acrimonious and poisonous material, when no such inflammation had in reality existed.

This insusceptibility is, indeed, very remarkable, and is only explicable upon the doctrine of final cause, or upon the supposition that nature has provided an especial immunity from the disordered state, on account of the constant exposure of the organ to the sources of irritation. The extreme organic sensibility of the stomach is, indeed, one of nature's provisions for obviating inflammatory induction; for, substances which could not fail of producing the state, did they remain in contact with the stomach, are mostly ejected by vomiting, or cause that uneasiness which, however violent, is different from the pain of inflammation, and which leads to the administration of medicines for the purposes of counteraction or expulsion.

Upon the whole, then, I think it fair to conclude, that indigestion consists primarily of muscular spasm, membranous irritation, and nervous uneasiness; that the ingesta, not duly acted on by the muscular fibres of the organ, and not duly influenced by the secretion from its membrane, become more or less subject to laws which influence matter not under the agency of the vital principle; that the consequences are, fermenta-

tions, flatulent swellings, and eructations; and that the resulting uneasiness or pain is attributable rather to organic sensibility of the stomach and adjacent parts, than to any membranous conditions which might be justly entitled to the appellative of inflammation.

At the same time, we must be careful to avoid the practical error of mere spasmodic pathology; and we must not think of stimulating and exciting, because weakness, and, if you please, spasm is present; regardless of the irritative, excited condition of parts and membranes, and obeying the commands of a generalising theory, in defiance of the counter commands of fact, and the clear indication of circumstance.

But before we engage in the consideration of its treatment, let us turn our attention a little more largely upon the exciting sources and preventives of stomach disorder.

Of the causes of indigestion, the most common by far is over-feeding; and although I have already said enough, and more than enough, perhaps, to convince the reader that I am no convert to, or partisan of, those principles of dietetic severity which have recently fallen into vogue, — which demand that "the scales shall regulate the quantity of ingesta, and which hold that even moderately to satisfy the calls of appetite is to open the flood-gates of disease upon our devoted frame,"—I do think that the habits of mankind are, for the most

part, beyond the just maximum in point of quantity of aliment; and I feel fully assured, that the dyspeptic can never expect to gain relief from his uneasy feelings by any medicinal courses, until he rigidly and steadily adheres to the great law of satiety, or conscious sensation, to which I have already had occasion more than once to advert. He must not look into books of diet, and try to compound with his inclinations, by selecting those materials which are said to be the least injurious — just as the religionist of fear, and forms, and ceremonies, places so many prayers and so much fasting against a certain quantum or kind of sin — but he must set resolutely and radically to the work of reformation, and obey the dictates of his "conscious sensation," in the same spirit that the religious and consistent moralist listens to the dictates of principle, and complies with the commands of conscience.

Then, again, the practice of fast eating is another source of dyspeptic mischief, which must be carefully refrained from, as the individual values his comfort and enjoyment. The young and the robust, and those who are habituated to the custom, may, indeed, do this with comparative impunity; but the dyspeptic and feeble must use their teeth, and must give time to their meals, in spite of every circumstance which would incite them to a contrary habit. It more particularly behoves the man of impaired or weak stomach

to act under the recollection of this necessity — since it is the most dyspeptic who are the most ready, without great care, to sin against the law; these individuals having frequently a sort of impulsive and imperative appetite, which demands immediate gratification.

Bad or confined air is a source of indigestion, and ought, of course, to be avoided with solicitude: indeed, that pure, uncontaminated air is especially proper for the dyspeptic, every thing loudly proclaims; and, independent of the mere good or bad qualities of air, the circumstance of *change* alone often operates wonders; although we are too apt on these occasions to ascribe all the good to such change, when a great deal of the benefit is justly attributable not to the *cælum* but to the *animus;* for the hypochondriac often disproves the poet's position, and actually becomes changed himself by changing the sky above him.* Dryness I have before spoken of, as a quality in the air suitable for the nervous and stomach valetudinary; and it is wonderful often to witness what a small distance will do in escaping the deleterious influence of damp *malaria.* I have stated on a former occasion, what I may here repeat, that I have known individuals who constantly find themselves aguish, and vapourish, and *dyspeptic,* and dull, and debilitated, while residing in Westminster, — and comparatively, in-

* Cœlum, non animum, mutant, qui trans mare currunt.

deed conspicuously, free from these drawbacks on comfort and enjoyment, when they shall have removed to the north or north-west parts of the town.

With air, exercise ought obviously to be joined; and those callings which compel to the continuance, for a length of time together, of one, and that a bent, position of the body, as being the most deleterious, ought to be the most carefully counteracted by frequent change. It is a sad spectacle to see crowds of young females collected together in a small apartment, bending, from early in the morning till late at night, under the weight of the dress-maker's commands, who is fighting herself, as it were, against time, in order to meet the imperious dictates of pride and fashion. These young creatures' lives are often made short, without being made merry; and many not merely dyspeptic ailments, but confirmed consumptions, owe their origin to the voracious rapidity of the fashionable variations and wants attendant upon " a winter in London."

The best time for taking exercise in this country, is, for the most part, between breakfast and dinner. Mr. Abernethy recommends the valetudinarian to rise when his powers have been refreshed by sleep, and actively exercise himself in the open air till he feels a slight degree of fatigue; while Dr. Paris forbids walking before breakfast, as a debilitating, rather than an in-

vigorating process. Nothing in the way of undeviating application ought to be advanced, either in this or any other part of regimen; but, in general, I think much exercise before breakfast rather injurious than otherwise to the delicate and weakly. I have myself, for some length of time together, endeavoured to overcome the indisposition to morning walks; but never could succeed. I have returned to the duties of the day with more languor than before, and have never found myself so well as when I took breakfast early, and walked after it.

Attempting exertion beyond a certain extent of bearing, is calculated rather to injure the stomach and the lungs than to remedy the dyspeptic disposition. I believe I am at liberty to state the pleasure and instruction I found in listening lately to a lecture of Dr. Farre, in which he justly and forcibly condemned that kind of inordinate and irregular trial of strength, which may be instituted under the feeling that, while we are engaged in exercise, we must necessarily be engaged in salutary employment. Dr. F. told us, that he had been called to attend a spirited youth, who had been educated in Germany, and who, British youth like, with eagerness to excel his companions and German rivals in athletic exercises, had brought on a palpitation of the heart, which was likely to establish itself as a permanent and organic disorder. And the gym-

nastics, which are now becoming so fashionable, may, in some cases, be carried too far. Let me, however, in this, as well as in the instance of hyper-abstemious opposition, protest against having my meaning misconceived. Although I would neither starve the poor stomach into good behaviour, as some have enjoined, nor flog feeble frames into undue exercise, I am most ready and willing to allow, that constant moderation and occasional abstinence are required to ensure a healthy digestion; and that exercise, properly adjusted, may be made one of the most efficient means of eliciting latent powers, and invigorating languid constitutions.

An inattention to the condition of the surface is a fruitful source of stomach ailment; and one of the principles upon which exercise proves beneficial to the dyspeptic, is that of its tendency to preserve the excretions from the skin in good condition. Friction of the surface ought to be enjoined as one of the most useful of dyspeptic remedies. This should be had recourse to every morning, immediately upon rising from bed; and with it should be combined a sort of shower-bath by a sponge. I have not been so satisfied in my own case with any single article of preventive management as the one I now refer to: it is preventive both of stomach derangement and of that inordinate susceptibility to cold which is usually a concomitant of stomach weakness; and I have

no hesitation in saying, that it ought to be employed by all whose nerves and digestive organs are in any degree disposed to be out of order. Of cold, since I have adopted the practice, I am comparatively careless; and my digestive energies are improved, to say the least, in an equal proportion. It is a practice, in my mind, far superior to the plunging in the cold bath; and I think, though this last is confessedly a salutary practice, in some cases, that the feeble are often rendered still more so by its adoption. The reaction which it excites may be too powerful to be consistent with the effecting of good.

Warm bathing, from 95 to 98, may be had recourse to occasionally with much advantage; and it is beginning now to be pretty well understood and acted upon, that a person, after coming out of a warm bath, is not more susceptible of cold than before he entered it. Indeed, filling the body with heat enables it to encounter a cold medium with more impunity than otherwise; and the practice of staying in rooms at a distance from the fire, or in ante-chambers, rather than rush at once into the cold air of the streets, is founded in error; as is that of standing on the brink of a bath, to lose some of the heat you have acquired by exercise, before you make the plunge. Indeed, no transition from heat to cold is dangerous, provided it be a *dry* heat, or under that which causes perspiration; and it is good

for the languid and feeble, rather to fill himself, as it were, with heat before he exposes himself to cold, than to part with it.

Sea-bathing is salutary to the dyspeptic. Whether specifically so or not, is a question; that is, whether there be any actual virtue in the saline impregnation of the water. It should seem, however, that it is not merely a popular opinion, which decides upon there being less danger of cold and injury from getting wet with sea water than with fresh; and this being fact, we may infer, that salt impregnation does give to the water something of positive virtue.

Hard study is, of course, to be avoided; and this rule, though obvious enough in itself, requires to be enforced, — since the most inclined to intellectual gratification, are, for the most part, the most obnoxious to the intrusion of stomach ailment. To say how many hours a-day the student might, with impunity, engage in literary occupation, were as absurd as to lay down the precise quantity, and mode, and times of eating and drinking: but he may be sure that he is pursuing a plan which will be destructive of its own purpose, if he push study to the extent of creating much dyspeptic inconvenience. We are told that a lady wrote to her son while at college — "Physic, metaphysic, all depend upon the inspiration of roast beef. If you would do well, you must eat and digest like a ploughman;

nay, if you would walk well, think well, write well, &c." This direction may be carrying anti-Cornaroism a little too far; but I think it so far correct, that I would say, the stomach must digest sufficient to get the physical powers into such a state as that mental occupation shall not soon break them down. Many are the cases, not only of indigestion, but of epilepsy and consumption, being the results of an intemperate pursuit of academic honours, and of a love for science, in exclusion of regard for self.

Warm clothing is especially necessary for the dyspeptic. To the sympathy between the stomach and the surface I have already repeatedly referred; and we may probably attribute a good deal, both of the stomach and pulmonary ailment that is incident to Britain, to our inconsistencies and irregularities in respect of dress — to our dress, especially that of our females, being an *undress* — and to a carelessness not to preserve a due warmth in the lower extremities. To the extremely susceptible of cold, and, through cold, to dyspeptic complaints, the wearing of wash-leather, either over the interior flannel or over the linen, will be found abundantly serviceable. A good sponging of the whole surface of the body with cold water, in the coldest weather, and afterwards an envelop of flannel and wash-leather, will provide against the vicissitudes of our climate in a way that few will believe till they have

actually been convinced by experience. For myself, I know that it was with much reluctance, and not till after a great deal of persuasion, that I adopted both these articles of preventive regimen; and I objected to the leather particularly, under the impression that any thing thus closely applied to the surface would occasion the feeling of imprisonment, as it were, and add to my natural irritability of skin: but I have found the reverse sensations to be the case; and since being in the winter season thus clothed, I have been comparatively free from catarrh and indigestion. Should there still be felt an objection to the leather being immediately over the flannel, it may be covered by some slight material, to obviate its unseemly appearance, and worn as an under-waistcoat. "How is it," said a gentleman to his friend, "that I see you all the winter now without a great-coat? you who used to be so proverbially dependent upon an upper garment?" "Here is the explanation of the thing," replied his friend, taking hold of the collar of his under-waistcoat, which had the appearance of a common light one, but which was in reality a covered leather one. I enter into these particulars, partly because, when, as a monthly medical reporter, I sometime since enjoined the propriety of leather clothing, I had several applications made to me as to the mode in which it might be best managed.

Ardent spirits, as the source of stomach, and, through the stomach, of all other complaints, must be shunned by the dyspeptic as poison. Drinking of spirits and water at night is an unpleasant and an unwholesome custom; and although many do it, and to a considerable extent, and for a great number of years, with impunity, it ought to be checked as much as possible, and the young, who are commencing life, cautioned against falling into the habit. Spirits, in the general way, ought to be limited to purposes and occasions of hilarity, — these, too, of not very frequent recurrence, — or employed medicinally. A glass of cold weak brandy and water, for instance, without sugar, will occasionally prove a salutary substitute both for wine and beer; and it has already been seen, that the author of these pages does not range himself among the *ascetic* dieteticians who do nothing but limit, and forbid, and frighten, and forewarn; but he would say, if there is one sin against physical propriety greater than another, it is that of constantly and habitually applying to the coats of the stomach ardent spirits, even though they may be diluted with water.

Dr. Beddoes, in his Hygeia, presents the two following statements, which are remarkably forcible, against the practice of spirit-drinking; the one from a Mr. Pilger, an active German experimenter, and the other from Miss Elizabeth Seward, the well-known writer of Dr. Darwin's life. "I

have," says the former, "given a number of horses wine and brandy, so as to raise them to a sensible degree of exhilaration. Upon these occasions, I constantly found that brandy gave the interior of the stomach a shrivelled appearance; that it had increased the orgasms of the blood-vessels of the intestines, and produced congestions in the brain, which I did not observe from wine in this dose."

The anecdote from Miss Seward is as follows: — She (Miss S.) met with a family of poor children, whose pale faces and emaciated bodies forcibly attracted her attention. Upon inquiry of the mother how they were fed, she was informed that "they did not eat much, and that what they did eat was not sufficient to nourish them without gin and water." It was, indeed, scanty vegetable fare. Miss S., after stating to the woman the pernicious effects likely to follow from such a regimen, advised her to purchase a little animal food with the money she expended in gin, and to give the children water to drink with their meals. "Lord, madam," replied the poor woman, "if I was to do that, I should never be able to satisfy them in these hard times. I was used to give them water; — but then they were always hungry, and I could not beg or buy victuals enough for them!"

We cannot well imagine more impressive representations than these, both of the extent to which

injury is done to the assimilating organs by the habitual use of spirits, and of the mode in which such injury is produced.

Narcotics of all kinds should be rather sparingly employed by persons who value the integrity of their stomach. The opium-eater deteriorates his digestive organs, as well as his nervous energy; and tobacco, whether inhaled by the lungs or taken as snuff, may not be the most friendly thing to the assimilating power. All provocatives of the stomach, such, I mean, as lash it into temporary excitation, are eventually injurious. Upon this principle, the peppers and spices in common use should be rather than not sparingly employed; and even bitters are objectionable in their protracted and indiscriminate use. I have, in a previous page, intimated, that the practice of taking medicinals of this class for a length of time, has been considered likely to occasion apoplexy. In all these restrictive intimations, let the reader understand that I should be desirous rather of checking a person from either going too fast or far, than prescribing the road he is to pursue. Moderation and good sense are the essence of every thing; and hyper precepts often prove quite as bad as no precepts at all.

There is one particular to which I would advert before concluding this short estimate of causes and preventives; and that is, that the dyspeptic

ought to run away from, or determine to combat, *the first menace of discontented feeling*. Low spirits may often be successfully resisted if the attempt be commenced sufficiently early. I *will* be good, says the child who sees the rod ready to direct the will into the way of goodness: and I will be cheerful, ought the dull and dyspeptic to say, who observes above him a cloud of hypochondriac fancies ready to burst upon his devoted head, if he chooses the path which leads to afflictive feeling. It is easier, I shall be told, to preach than to practise, to prescribe than pursue; but of this I am certain, that before the habit become confirmed of yielding to their influence, a determined, and I would say conscientious, resolution of dispersing the coming mists of vaporous depression, may prove, to a very considerable extent, successful and effective: *Possunt quia posse videntur*. "We would not be paradoxical or extravagant enough to assert, that for a person to be in health, it is sufficient that he wills it. But without transgressing the moderation of truth, we may venture to give it as our opinion, that a man often indolently bends under the burden of indisposition, which a spirited effort would, in the first instance, have shaken from his shoulders. If, upon the approach of the malady, he had resolutely set his face against it, he would probably have arrested it in its threatened attack." The doctrine of irresistibility, in all its extent, is

neither a true nor a wholesome doctrine; and the hypochondriac should reflect, that in saying to gloom, "Henceforth be thou my good!" he not only directs his own destiny, but implicates others in his fatal choice.*

* "Call it madness, call it folly,
Call it whatsoe'er you may,
There's such a charm in melancholy,
I *would not*, if I could, be gay."

Melancholy has something in it of poetical and sentimental, which constitutes a great portion of its charm; but stripped of its ornamental accompaniments, and laid bare to a *dissecting* view, it will be found to consist, in a great measure, of pride, and selfishness, and indolence. I cannot conceive a more delightful spectacle than that of an individual whose constitutional cast is melancholic, warring against his temperament, and determining to enter with hilarity into the scenes and circumstances of social life. In this case we have all the interest of melancholy, without its objectionable parts.

CHAPTER III.

Remedies for Indigestion.

On the more strictly medical treatment of stomach ailment, I shall, for obvious reasons, be brief.

Of indigestion, two of the prominent features are flatulence and acidity—and the remedies for these states are clearly indicated; they are the alkalies and magnesia; and the advantage which the latter, in the general way, possesses over the former, is this, that, as containing an alkaline principle, the stomach acidity is neutralised by its administration, and a purgative salt being formed, in some measure, by the combination, the double purpose is thus effected of a corrective and an aperient. A tea-spoonful or two of magnesia, thrown into a glass of water, and taken before going to rest, will often anticipate, as it were, the acid formation in the stomach, which would otherwise be consequent upon a little irregularity of eating or drinking, and will destine the individual to a good, who otherwise would pass a restless, uncomfortable night. When a more positive purgative is required, it will be right to combine the sulphate of magnesia (Epsom salts) with the carbonate (common magnesia): two large tea-spoonsful of the former with one of the latter

will constitute a good domestic aperient; and for a gouty invalid, one tea-spoonful of the fluid carbonate of ammonia (sal volatile) will be found a useful addition; or if the habit be cold, two or three spoonsful of tincture of rhubarb may be advantageously mixed with the salts and magnesia. Than tincture of rhubarb, indeed, the pharmacopœia does not furnish many more useful medicines — a few tea-spoonsful of it taken in a glass of water may often prevent the establishment of stomach complaints, which might be severe and protracted.

Aperient or antibilious pills, as they are termed, ought to be so compounded as to comprise medicinals which are more efficacious in combination than they are separately, and the separate ingredients of which act upon different portions of the alimentary and intestinal canal. It is a principle in medicinal agency, that the union of two materials will prove more operative than the same dose of one; and we all know, that some cathartics especially act on one part, and some on another.*

* ℞ Pulv. Aloës,
—— Jalapæ,
—— Sennæ,
—— Rhæi,
Saponis duri, āā gr. xij.
Aquæ q. s. ft. massa, in pil. xviij. div.; sumat ij. horâ somni.

In respect to the blue-pill, which has recently become so fashionable an article of domestic employment, I may remark, that its use seems rather indicated when, together with a dyspeptic condition of the stomach, a torpid state or irregular action of the liver is menaced; and the nervous or irritable feelings which arise from this source are remarkably, at times, subdued, or at the least tempered, by five grains of it given at bed-time. I have often been asked whether an opiate has been given, after I had administered a small dose of the blue-pill — such is occasionally its tranquillising influence: but this effect, even though the condition has seemed the same as in other cases, often fails of being produced; and the sixth or a quarter of a grain of calomel, with four of the extract of henbane, will occasionally do the good that the blue-pill will fail of producing.

Bitters, though in their protracted or habitual use they are objectionable, will not seldom prove of much utility in the early stages of indigestion; and when irritation is gone by, their employment in connexion with slight aperients, or, in medical phraseology, deobstruents, is often attended with considerable benefit, by giving such a tone to the stomach, and preserving the secretions in such condition, as shall prevent the recurrence of the malady.

The mineral acids are excellent medicines, in

some kinds and forms of dyspepsia. Five or six drops of either the muriatic or the nitric acids, especially the former, taken in a glass of water, and continued for some length of time, will answer the double purpose of giving tone to the muscular fibres of the organ, and of getting its secretory surface into a better state. When, in conjunction with the stomach ailment, there is a clammy perspirable condition of the surface, the sulphuric acid will prove more answerable to the demands of the case than either the muriatic or nitric. This intimation I take from Dr. Philip, and it is a valuable one: indeed, I question whether the particular power of the sulphuric acid, at once to act beneficially upon the stomach and surface of the body, be sufficiently appreciated. The dose of the diluted sulphuric acid may vary from ten to five and twenty drops.

The Peruvian bark is often inadmissible as a tonic, when even bitters and mineral acids may be employed; nor can I ratify the encomium of Dr. Johnson on the concentrated form of bark (the sulphate of quinine), I mean in respect to its powers as a stomachic. In some cases of general debility, and in some modifications of nervous ailment, it is an excellent medicinal.

Counter-irritation will sometimes conquer habitual dyspepsia. A blister to the back is not seldom an excellent stomachic. Tartar emetic

ointment,* too, either applied by friction upon the chest, or rubbed in upon the spine, near the roots of the hair, will be followed occasionally by favourable results.

The galvanic stimulus may prove highly beneficial, if properly and timely applied; but, as I have elsewhere said, it is an edged tool, and must not be played with. Stimulants of all kinds should be had recourse to in deranged states of the system, under the impression, that if not proper, they may be *very* improper; and physiology, moreover, has not yet so completely unfolded the electric connexions and susceptibilities of the living system, as to enable us to pronounce, with much certainty and precision, on the voltaic impulse as a remedial agent.

This last remark leads me again to allude to the circumstances of the system under what Dr. Philip calls the second stage of indigestion; and although I dissent from his position with respect to the regular decadence, or transition from one to another state; and although I conceive that we must in this, as in every other department of medicine, be rather regulated by circumstance than cramped by definition;—yet I believe that we should often do much injury, both to the digestive organs and to the system at

* Page 124.

large, by neglecting duly to appreciate those changes which demand, on the part of the practitioner, that he pursue a totally different line of acting from what would be proper and requisite under mere indigestion without inflammatory verging; and where we have much of topical tenderness united with febrile excitement, leeches or cupping, nitrate of potass, tartarized antimony, and ammonia, with or without saturation, and colchicum, will be found medicines much more applicable to the existing state of things than those of a more stimulant or tonic class; which last, as I have above remarked, in reference to galvanism more particularly, if not proper, are *very* improper.

Nitre (nitrate of potass), in doses of eight or ten grains, pretty frequently repeated, will often operate very kindly and effectively in dyspeptic conditions which are accompanied by irritation and contracted pulse; and I think with Dr. Philip, its administration, combined with acacia mucilage and hyoscyamus tincture, constitutes a most excellent formula. When on the subject of infantile ailments, had it been within my plan to have engaged much in detail, I should have stated, that I find this medicinal often requisite to alternate or combine with foxglove and small doses of mercury. Some of my readers, who have run over the sections of this book which treat of infantile ailments, will have been surprised that

I did not devote a page or two to the consideration of what authors have termed bilious remittent fever. The fact is, however, (and I must have expressed myself unfortunately if I did not convey this feeling to the reader,) that I do not admit of any positive or abstract malady, that shall be justly entitled to this appellative; but fever may more or less, according to constitutional tendency, grow out of the *stomach* and bilious ailments of infancy; and when that is the case, the judicious practitioner will want no intimations that saline medicinals are requisite, nitre being of these one of the most useful. Indeed, both in infancy and in the adult period of life, I very often find my account in combining nitre with bark, when contra-indications, as medical men express themselves, command that you blow hot and cold at the same time.

Tartarized antimony (tartar emetic) is also another medicine which, in exceedingly small doses (so small, at times, as the tenth of a grain), will be found to meet with effect those irritative manifestations or accompaniments of stomach disorder which are displayed by want of freedom in the pulsations, and a locked-up state of the surface. Antimony, I am disposed to think, has fallen too much into disuse in the present day; but it is rather in these very small doses that I am more partial to it, than when it is given to produce very sensible action. As an alterative stomachic,

if the term be allowed me, it is a highly important medicine; and when the skin irritation, or tightness, with a view to the overcoming of which it is exhibited, shall be accompanied by much febrile character in the pulse, then it may be connected with saline medicines and with nitre. When the skin affection is of a more chronic and less febrile kind, its combination with the decoction of the woods, or its administration alone, will be desirable. Of this I am convinced, — as indeed I have just intimated, — that the fashion of trusting every thing recently to small doses of mercury, has made us, in modern times, too neglectful of the properties both of antimony and nitre.

Of ammonia, which is another of Dr. Philip's remedies for the *second* stage of indigestion, I have already said enough to convince the reader that I estimate its powers very highly: indeed, than this medicine, if administered judiciously, there is scarcely a more valuable one in the whole materia medica; and it is most particularly applicable to those dyspeptic states that attend upon gouty habits; it diffuses warmth, without producing irritation, and, as it were, forces collapse away from the centre, to be dispersed and lost upon the surface of the body: its dose may be from six to ten grains.

Colchicum, too, is a good medicine for indigestion, if used at proper times, and in sufficiently

small doses. There are those who will tell you that rheumatism is, in all cases, a stomach or sympathetic affection; and that articular disorders, which are referred to cold, or sometimes to specific sources, have, in point of fact, their origin in ventricular or digestive organ irritation. In this position and opinion there is a great deal of erroneous leaning to fashionable pathology, at the expense of truth; but that certain conditions of the central nerves and the digestive organization often originate, and oftener modify, pains among the muscles and in the joints, must be admitted not only as fact, but as fact that requires practical cognizance on the part of the physician; and it is in these kinds of accompaniments of stomach affection with joint malady, that the colchicum, in very small doses, often stimulates kindly the stomach and bowels, while it gently, in so doing, relaxes the skin, and thus proves of essential and lasting service. Its dose may be from ten minims to twenty or five and twenty. Of the very small doses of tincture of hyoscyamus I have never been able to trace the efficacy; but they may be employed as adjuncts to other more decided medicines, at any rate, without disadvantage.

Before concluding, I feel myself called upon to say a few words on the subject of a domestic medicinal which has recently excited the notice of many, the admiration of some, and the appre-

hensions and alarms of others. I mean the white mustard seed, which, by the way, is so far from being a novelty, that I recollect, as long almost as I can recollect any thing, my own father taking it by spoonsful, in the way it has been recently recommended. But why bring up the topic of mustard seed at the present time? its short-lived existence is over, say some;—it is dead, and we have nothing to do but to sing its requiem:—no, says a witty reviewer, it is not dead, it is only gone abroad: and to prove that this last writer is in some measure correct, I may give the following extract of a letter, not a very long time ago received from a relation resident at Naples, which letter has, indeed, already found its way into print.

"In a place where people devote themselves so much to pleasure, there must be a sufficient portion of disease; and as all are seeking some universal remedy, different medicines and different systems will rise and fall as fashion dictates. When I first came here, all the world was running after a course of violent purgatives, introduced by the pamphlet of Monsieur Le Roi: such was the rage for this man's medicine, that it was sufficient to occasion the popularity and success of a dramatic piece founded on the mania, and performed at the Neapolitan theatre. To this succeeded the system of Heinermann, which

was practised here by one of his pupils, of the name of Necker. But now every thing is beaten off the field by mustard seed. Mr. Turner (who is making a crusade—not to plant the cross on the walls of Jerusalem, but to plant mustard seed in the stomach of all the inhabitants of the globe) has been here also. He would persuade us that there is now no longer any occasion for disease or suffering; all the evils of life are at an end, and we have only to live on in peace and quiet to the extremest old age, without pain and without anxiety. We have nothing to do but to take mustard seed!"*

Mr. Turner and his followers are, doubtless, persuaded that they are doing a great deal of good by their unqualified recommendation of a domestic medicinal; and, averse as I am from any thing which pretends to the nature of a

* Naples is not the only place that has its fashionable successions and popular rages; a much larger city than it, is at one time full of liver complaints, at another of digestive organ disturbances; now the talk of medical men is about spasm, now about inflammation. Excitement is the order of the day at one time, and mucous membrane irritations at another. Purgatives are to do every thing at this period; blue-pill is the catholicon of that. Portland powder has been the mustard seed of a preceding era; mustard seed is its substitute at a succeeding one; and so on. Whether Dr. Heinermann, with his billionth part of a grain doses, will, in his turn, take his footing among us, remains to be seen.

catholicon, from the feeling that neither any medical system nor any medicinal article will universally apply, I do really think that much benefit has, in some cases, attended the employment of the material in question, and that its introduction by no means merits the angry philippics that some have preferred against it. I am acquainted with a most respectable surgeon, who had been dyspeptic, and invalided in various ways for some years, and who could find no permanent relief from any medicine, till he began a course of mustard seed. He is now, he tells me, — indeed his countenance sufficiently indicates it, — an altered man; and it is a curious fact, that the writer of the letter, an extract of which I have just presented to my readers, in a subsequent communication to me, changes his tone of banter and scepticism on the subject of mustard seed, into one of belief and commendation. He tells me he has taken it himself with excellent effect, and he feels persuaded that it is a valuable article, as a domestic medicinal, to such persons as are sedentary in their habits or occupations, and who are in consequence liable to dyspeptic stomach and sluggish bowel.

When it disagrees, it does so either from the bowels being too irritable for the stimulus it gives them, or from the habit being such as to interfere

with its passage, and occasion its lodgment. I was, a little time since, summoned to see an old lady who had followed the crowd in swallowing mustard seed, from the feeling, that what was so universally lauded must be good; but who well nigh fell a victim to its accumulation in the lower bowels, which she had permitted it to do to a very considerable extent.

Upon the whole, however, I imagine that the good which is likely to result from a temperate and judicious employment of this material, may justly be considered as a full counterbalance against the evil of its bungling management or indiscriminate use; and I would say, with Dr. Johnson, "If it keep the bowels open, and produce no unpleasant feeling in the stomach, alimentary canal, or nervous system, it may be taken with safety. If it do not produce an aperient operation it can do little good, and may, perhaps, do mischief."

There is one other remedy for stomach affections, which I cannot feel comfortable in closing my book without the mention of; it is the subnitrate, formerly called the oxide of bismuth. The virtues of this substance were first announced to me by my friend Dr. Bourne of Oxford; and I have many times had recourse to it in those stomach pains which go under the somewhat vague term of gastrodynia, with the most happy results.

This medicine would appear to operate mainly upon the muscular fibres and secretory surface of the stomach, in such sort as to excite them into new actions, and give an energy to the nervous power which directs those actions; but the precise nature of the pain for which the bismuth is administered is somewhat obscure; and the *modus operandi* of the medicine not, therefore, likely to be very satisfactory, It should be observed, however, that the good effected by its administration is not limited to mere functional disorder; for it has been used a great deal in structural affections of the stomach, and with a vast deal of temporary benefit. The celebrated police magistrate, Mr. Colquhoun, died of a scirrhous pylorus: the pains which he underwent in his stomach were, at times, exceedingly distressing, and, until he made trial of the bismuth, were scarcely mitigated by any medicinal. This substance afforded him much relief, and very materially diminished the violence of his pain. Dr. Yeats, his son-in-law, has published an account of the case in one of the numbers of Mr. Brande's Journal of Science and Art.

In concluding the present disquisition, I may intimate, that the sympathetic and functional dis-

eases which have constituted the main topics of animadversion in the preceding pages, and which arise from deranged conditions of the digestive organs, operating upon the irritability of the nervous frame, may, if protracted or maltreated, become actual diseases of parts and organs; and they are always more or less liable so to establish themselves, unless the morbid association of which they are formed be broken in upon, and the patient cheated or diverted away from his nervous susceptibility. And to this opinion I am more particularly led from a conversation I have recently had with Dr. Philip, who tells me, that by cutting off nervous supply from the respiratory and digestive apparatus, in the way before mentioned, not only are digestion and respiration interfered with, but the actual structure of the lungs becomes altered in a very short space of time. Dr. P. is, I believe, about to state this fact in a forthcoming number of the Philosophical Transactions; and a most important fact it is, in its physiological and pathological bearings, — teaching the physician, that even those disordered states which modern doctrines have explained upon membranous and vascular principles, are, in fact, themselves dependent upon nervous change.

It may be further remarked, that while the nervous agitation exists, the structural tendency

is, if it may be so said, suspended. I am now in attendance upon a lady, who ought, from the quantity of raw spirits she takes, to be affected with a liver complaint, which indeed has been threatened, but which, I verily believe is kept at bay by the almost maniacal condition of her nerves.

It is more, I think, than probable, that the topical malady of which the late ruler of France died, was a sort of concentrated termination, so to say, of all his ardent and irritable sensations into one point; and it may be presumed that, had his destiny been to live on in the state of excitement under which he for some years existed, his final period would not only have been protracted, but that death would at length have visited him in a different shape. My inference from this presumption is, that although the attempt should never be made to laugh a patient out of his feelings and his fears, under the very erroneous notion that they are imaginary — it will be found of importance for the purpose of preventing such disorder from becoming located; and in one sense, more absolute to look well to the occupation of the mind, or to keep the nervous energies in a state of excitement; and in this way add mental and moral motive to the physical stimulus to which we have re-

course under these distressing forms of functional ailment.

Of some of these at least we may say, if my theory be correct with respect to Napoleon's last disorder, that they

> "Admit one only cure, —
> Diversions, hurry, and a restless life."

THE END.

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